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PRINCIPAL INVESTIGATOR: Nancy Atkinson, Ph.D.

CONTRACTING ORGANIZATION: Macro International, Incorporated
Calverton, Maryland 20705

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6. AUTHOR(S)

Nancy Atkinson, Ph.D.

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)Maco International, Incorporated
Calverton, Maryland 20705**8. PERFORMING ORGANIZATION
REPORT NUMBER****E-MAIL:**

natkinso@macoint.com

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The purpose of this report is to report the results of the third year of a four-year study to investigate and address enlisted Army and Navy women's needs for basic gynecological and reproductive health education in order to enhance military readiness and general well-being. In the first phase of the study, a needs assessment was begun in which the methods included: 1) a mail survey of knowledge, attitudes, and practices (KAP) from a random sample of Army and Navy clinicians and chiefs of military medical departments; and 2) focus groups with enlisted Army and Navy women and with their health care providers. This third year completing the focus groups, needs assessment surveys, and a secondary analysis of a national survey of military personnel health related behaviors. Based on the results of these needs assessment data, we have determined implications for enlisted women's reproductive health. These data will be used to develop a culturally sensitive, multimedia CD-ROM and accompanying materials which will be reviewed by an advisory panel of military health care providers and the target audience of enlisted women. This intervention will then be tested in Army and Navy medical clinics in conjunction with annual Pap test screening.

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I. Introduction

The project "CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women" was initiated as a way to study and address the reproductive health education needs of enlisted Army and Navy women. Not only is the ability of each female soldier to protect and control her reproductive health essential to military readiness, it is important for these women's quality of life. The purpose of the study is to investigate enlisted women's needs for basic gynecological and reproductive health education, from the perspective of military health care providers and enlisted women themselves. Based on the results of the needs assessment, a culturally sensitive, multimedia CD-ROM and accompanying materials will be developed. This intervention will then be tested in Army and Navy medical clinics in conjunction with annual Pap test screening.

This report describes the third year of operation of the project, which began in October 1998. The project is a four-year study with three distinct phases: a needs assessment phase, a design phase, and an efficacy study phase. The first year was to include the needs assessment phase and the beginning of the application design. Due to continued delays in questionnaire design and human subjects approval that continued past the first year, the needs assessment phase is only now completed. This report will summarize the needs assessment findings and our future task timeline.

II. Body: Research Accomplishment

The experimental methods and procedures reported here represent an amalgamation of methods originally proposed and those resulting from an approved revision to the needs assessment process (that included additional focus groups and a secondary analysis of an existing dataset).

A. Experimental Methods and Procedures

The purpose of the study is to investigate enlisted women's needs for basic gynecological and reproductive health education, as evidenced by a needs assessment process to be conducted with military health care providers and enlisted women themselves. Based on the results of the needs assessment, a culturally sensitive, multimedia CD-ROM and accompanying materials will be tested in an Army and Navy medical clinic in conjunction with annual Pap test screening. The technical objectives are as follows:

- 1) To assess the most pressing reproductive and gynecological self-care education needs of enlisted women on base and in the field;
- 2) To assess the range of current health education efforts for enlisted women;
- 3) To enhance enlisted women's self-care and care-seeking knowledge and practices through development and implementation of a culturally sensitive, multimedia educational intervention and accompanying field pocket guide at a medical clinic.

The study originally involved 4 data gathering activities that involved human subjects:

- 1) Needs assessment mail surveys conducted with nationally representative samples of enlisted

- women in the Army and Navy (N=500), military health care providers (n=260), and chairpersons of military base OB/GYN services (N=160);
- 2) Needs assessment focus groups with enlisted women in the Army and Navy (N=40) and military health care providers (N=20);
 - 3) Alpha Test of prototype intervention with 10 enlisted women at the Uniformed Services University of the Health Sciences (USUHS); and
 - 4) Efficacy Study in which 528 enlisted women (264 from the Army and 264 from the Navy) complete a knowledge, attitudes, and practices (KAP survey) before the intervention, immediately after the intervention, at 6 month follow up, and at 12 month follow up.

The study now involved 5 data gathering activities. The needs assessment survey with enlisted women was replaced by a secondary analysis of the 1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel to determine the effect of health-related attitudes and behaviors on enlisted women's history of sexually transmitted diseases (STDs), Pap test screening, and pregnancy. No human subjects were involved in this activity. In addition, the focus groups were modified to gather data from more participants. Instead of 40 enlisted women and 20 clinicians, the study planned to do focus groups with 80 enlisted women, 40 physicians, and 40 nurse practitioners and physician assistants.

The sections below describe the procedures employed in the focus groups occurring in Year 3 of the project, the needs assessment surveys, and the secondary analysis. The detailed findings can be found in the appendices.

1. Focus Groups

Our initial scope of work included 4 focus groups with enlisted women and 4 focus groups with their military health care providers (physicians only). Since then, we were advised to conduct a secondary analysis of an existing dataset rather than conduct a new survey of enlisted women (see below). In addition, our advisory panel recommended including input from nurse practitioners and physician assistants who provide much of the direct health care for enlisted women. Therefore, we modified our scope of work to include more focus groups with women and a broader range of military clinicians to ensure that attitudes and beliefs related to reproductive health behavior were examined (a total of 8 groups with enlisted women, 4 groups with physicians, and 4 groups with nurse practitioners and physician assistants).

The focus groups were conducted at 2 Army installations (Fort Bragg and Fort Lewis) and 2 Navy installations (Naval Station San Diego, Naval Station Norfolk). The groups were approximately 90-minutes long with approximately 6 to 10 people each. We worked with a co-investigator at the installation to recruit focus group participants.

The focus groups were led by a trained focus group moderator and covered a range of issues. The focus group guides were developed using a similar process of initial development based on the goals and objectives of the project, expert panel review, and revision. The guides were written so that no identifying information would be taken from participants, and

participants were not asked about their own behavior. The guides were submitted to IRB review for human subject concerns at each of the installations. The focus group report for Fort Lewis is in Appendix A, for Naval Station San Diego is in Appendix B, and for Naval Station Norfolk is in Appendix C. Moderator's guides as approved by the respective IRBs are included in each of the reports. The focus group report for Fort Bragg was included in the Year 2 annual report.

2. Needs Assessment Surveys

The needs assessment surveys of military clinicians and chiefs of service were assigned a Report Control Symbol on September 15, 1998. The report of the survey study is in Appendix D, and the approved surveys are appendices within the report. Below is a summary of the methodology for the needs assessment surveys provided in the report.

Instrumentation

Data collection instruments were created to examine the attitudes and practices of military clinicians and chiefs of service as they pertained to the reproductive health needs of enlisted women. The instruments consisted of equivalent items, but the chief of service survey had fewer questions and was formatted to appear shorter to ease ability to respond, because expert reviewers advised that chiefs often had little time to respond to surveys.

An expert panel of military clinicians, a retired chief of service in Army obstetrics and gynecology, DoD Health Affairs, and the Defense Manpower Data Center reviewed the instruments. The surveys were pilot tested. Nine military clinicians (a mix of nurse practitioners and physicians) completed the clinicians survey twice, and correlations revealed acceptable stability reliability. Respondents also wrote comments on the survey that facilitated further refinement of the items. Four chiefs of service completed the chiefs of service survey once and forwarded comments to the study team, and these comments were used for revision.

Sample

A random sample of 260 health care providers was drawn from lists of military health care providers (physicians and nurse practitioners) in obstetrics and gynecology and family practice in the Army and Navy. A random sample of 160 chiefs of service was drawn from lists in the following medical services: obstetrics and gynecology departments, family practice departments, branch medical clinics, and troop medical clinics.

The two surveys had different populations, each which were clearly defined:

- The Clinician Survey population was stateside, active-duty military clinicians who provide reproductive health care to enlisted Army and Navy women, including physicians (in obstetrics/gynecology and family practice), and nurse practitioners (in obstetrics/gynecology and family practice).

- Chiefs of Service Survey was directed toward those who direct the operation of stateside military medical departments or clinics that provide reproductive health care to enlisted Army and Navy women. The departments may include obstetrics and gynecology (OB/GYN), family practice, sick call, troop medical clinic (TMC), or branch medical clinic (BMC).

Data Collection

The surveys were sent to individuals drawn in the samples between January and April 1999. The surveys were distributed and collected via U.S. mail. Each respondent who chose to respond enclosed his or her survey in a personal, self-addressed, pre-stamped envelope. Surveys were marked with a unique identification number so that an individual's name and address would be removed from the sample upon receipt of his or her survey. If no response is received, a second survey was mailed. If there was still no response, a third survey was sent. After three rounds of mailings, we received 110 surveys from clinicians (response rate = 42.3%) and 105 surveys from chiefs of service (response rate = 65.6%).

Data Analysis

The data from returned surveys were entered into two SPSS spreadsheets. A third SPSS spreadsheet was created for analysis with the items that were same on the two surveys. The findings focus on the variables that were similar across surveys with a few additional analyses from the clinician's survey. Frequencies, crosstabs, means, and standard deviations were calculated to determine relevant percentages reporting and central tendency. As appropriate, chi-squares, t-tests, and analysis of variance were conducted to examine significance. Differences in responses between clinicians and chiefs of service were examined as well as differences between respondents in the different services.

4. Secondary Analysis of 1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel

We conducted a secondary analysis of the *1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel*, focusing on questions related to sexual risk behavior, alcohol consumption, stress factors, military health education, and other factors related to reproductive health. In general, these factors were examined as to their effect on enlisted women's history of sexually transmitted diseases (STDs), Pap test screening, and pregnancy. The report of the secondary analysis is in Appendix E.

Data analyses conducted were:

- Univariate analysis of individual items (means, standard deviations) to describe the demographics and health history of enlisted female in the sample.
- Bivariate analysis (crosstabs, correlations, t-tests) to examine relationships among

variables and look for significant difference between enlisted women and female officers and between enlisted women in the Army and the Navy.

- Discriminant analyses with three dependent variables (STD history, Pap test screening behavior, reported pregnancy on active duty) to determine factors most related to reproductive health problems. A discriminant analysis with the same factors was used to examine factors related to satisfaction with the STD education at the woman's current installation.
- Univariate (percentages) and bivariate (crosstabs, correlations) analysis of items examining attitudes toward military health education programs (i.e., alcohol education program, drug education, and STD education) to determine if these programs are perceived to be effective by enlisted Army and Navy women and to compare differences in ratings of these programs between services, enlisted personnel and officers, and males and females.

A preliminary report of the secondary analysis findings was presented at the 1998 American Public Health Association conference (see Appendix F).

B. Relevance to Original Objectives

The findings from the above activities relate directly to both of the technical objectives from original proposal related to the needs assessment:

- 1) To assess the most pressing reproductive and gynecological self-care education needs of enlisted women on base and in the field.

All three methods—focus groups, secondary analysis, and surveys with military clinical staff—sought to determine the extent to which enlisted women have reproductive health problems and the extent to which their behaviors place them at risk for those health problems. In the focus groups, both enlisted women and their health care providers were asked to identify important health concerns of the target population and to explain why they were concerns. The secondary analysis of the 1995 healthy behaviors survey also allowed an examination of reproductive health issues (pregnancy during active duty, STD infection, and Pap test screening adherence) and their determinants. The clinician and chief of service needs assessment surveys added a quantitative dimension to the understanding of the importance of STD infection, unintentional pregnancy, and vaginal infection to enlisted women's health and to military readiness.

- 2) To assess the range of current health education efforts for enlisted women.

The needs assessment methods were also used to determine the adequacy of health education efforts for enlisted women regarding reproductive health. Focus group participants were asked where and who enlisted women receive military health education and how that health education could be improved. Respondents in the secondary analysis were asked their

perceptions of the helpfulness of several health education programs. Lastly, clinicians and chiefs of service were asked to report health education they or their department provided and to rate the quality and quantity (too much, right amount, too little) of military health education by topic.

The needs assessment research combined quantitative and qualitative methods to examine these questions. Using these techniques simultaneously allowed triangulation of results while taking advantage of the benefits of qualitative and quantitative techniques.

C. Problems in Accomplishing Tasks

As noted in previous reports, the originally proposed time frame for conducting the needs assessment was underestimated. Clearance and approval procedures continued to impact the time line in Year 3 of the project. The IRB process at Navy installations proved to be more involved than at Army installations. In addition, access to female sailors and Navy clinicians appeared to be more difficult for our Navy contact persons to obtain. As a result, the focus groups could not proceed in a timely manner. In addition, the opening of a new Navy hospital in the Portsmouth/Norfolk area further delayed our efforts.

Another barrier to completing a task during the development of a chiefs of service list. No central list of troop medical clinics (TMCs) or branch medical clinics (BMCs) could be located through our contacts in the Army Surgeon General's office and the Navy Surgeon General's office. Therefore, we compiled a list through research of each installation and its respective medical command. The random sample of chiefs was drawn in part from this list.

III. Key Research Accomplishments

This section is a detailing of Year 3 activities and results. It is not yet a final project report with a full listing of project outcomes. Table 1 lists the major activities of the third project year in terms of the four tasks outlined in the original proposal.

Table 1: Major Activities of the Third Project Year		
Task	Description	Months of Performance In Year 3
2	Continued and completed IRB process for focus groups at Naval Station Norfolk/Portsmouth.	1-7
2	Scheduling of focus groups at Naval Station Norfolk/Portsmouth	7-9
3	Presented findings from preliminary secondary analysis report at 1998 Conference of American Public Health Association	2
3	Conducted needs assessment survey: developed sampling lists.	1-3
3	Conduct needs assessment surveys: fielded questionnaires and collected data	4-7
3	Conduct needs assessment surveys: entered and cleaned data.	7-9
3	Conduct needs assessment surveys: analyzed data, prepared report.	10-11
3	Prepared final secondary analysis report	7-12
4	Conducted focus groups at Naval Station San Diego with enlisted Navy women.	1
4	Prepared report of Naval Station San Diego focus group.	7-12
4	Conducted focus groups at Naval Station Norfolk/Portsmouth with enlisted Navy women and military clinicians.	9
4	Prepared report of Norfolk/Portsmouth focus groups	12
5	Began to analyze needs and to develop curriculum and multimedia design document	12

IV. Reportable Outcomes

In terms of reportable outcomes, one paper presentation and one abstract submission were the only items that apply for the third project year. No patents, licenses, informatics, funding, or other research opportunities resulted from this research.

Presentation at 1998 APHA Annual Meeting: November 1998

A presentation of the preliminary findings from the secondary analysis was given at the annual meeting of the American Public Health Association in Washington, DC, in November 1998. The presentation is in Appendix F, and the citation is as follows:

- Brown-Huamani, K.D., N. Atkinson, R.S. Gold, and E. Lewis. 1998. Determinants of reproductive health and health behaviors among women in the U.S. Armed Forces. Presented at the American Public Health Association's 126th annual meeting, November, Washington, DC.

Abstract for 1999 APHA Annual Meeting: Submitted February 1999

The following abstract was submitted for consideration for the 1999 conference of the American Public Health Association in Chicago, Illinois. It was accepted for presentation at a session sponsored by the Public Health Education and Health Promotion Section of APHA on November 8, 1999:

- Atkinson, N.L., L.N. English, K. Brown-Huamani, E. Lewis, and R.S. Gold, R.S. 1999. Health Education Needs of Enlisted Army and Navy Women.

The purpose of this paper is to describe a needs assessment to determine the knowledge, attitudes and practices related to reproductive health behavior for enlisted women in the Army and Navy. A combination of qualitative and quantitative methods were used, including: 1) expert panel meeting; secondary analysis of the 1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel; 2) focus groups with single and married enlisted women in the Army and Navy; 3) focus groups with military clinicians in the Army and Navy serving enlisted women; and 4) surveys conducted with clinicians (physicians and nurse practitioners) and with commanding officers of military medical services providing reproductive health care to enlisted women. The findings from this study were used to develop recommendations for health education interventions that will reduce the incidence of unintentional pregnancies, sexually transmitted diseases, and urinary tract and vaginal infections among enlisted women. The methods, findings, and recommendations will be discussed as well as their implications for military health education.

Learning Objectives:

At the conclusion of this presentation participants will be able to:

- Identify medical care practices that are routinely provided to enlisted women prior to deployment.
- Identify the reproductive health problems of enlisted women considered to be most common and serious.
- Discuss factors that inhibit enlisted women and their health care providers from preventing reproductive health problems.
- Describe elements of a reproductive health education intervention tailored to the needs of enlisted women.

V. Conclusions

A. Main Conclusions

- Enlisted women in the Army and Navy have a significant need for reproductive health education in the following areas:
 - Basic information on anatomy and physiology of the female reproductive system,
 - Reproductive health care for women in their 20s and 30s,
 - Contraception,
 - Sexually transmitted diseases,
 - Non-sexually transmitted reproductive system infections,
 - Basic hygiene practices,
 - Prevention and implications of unintended pregnancy,
 - Communicating with the health care provider, and
 - Communicating with sexual partners.
- Consideration should be given to including basic information on breast cancer, cervical cancer, and menopause in the health education intervention being developed for this study as they are important to a woman's lifetime reproductive health.
- Consideration should be given to adapting this intervention to include information male enlisted soldiers and sailors as well as the female enlisted personnel.
- In order for health education to be effective with enlisted personnel, it must be delivered in a variety of interactive formats that allow people to select and respond to information and practice making health decisions. A lecture format will not be successful in engaging the target audiences.
- In order for computer-based health education to be effective, enlisted personnel need easy access to a computer, both on base and in the field.

- Reproductive health education should be part of the basic training for enlisted personnel. Moreover, reproductive health education needs to be ongoing throughout the military careers of soldiers and sailors.
- Any health education intervention for enlisted women in the Army and Navy will be less effective without support from commanding officers and clinicians. Consideration should be given to providing a similar intervention to commanders and clinicians to improve support for the reproductive health needs of the enlisted women.
- Unintended pregnancies among enlisted women in the Army and Navy may be partially due to the unavailability or inaccessibility of contraceptives during deployments in the field and on ship.
- Sexually transmitted diseases (STDs) among enlisted personnel may be partially due to lack of availability of condoms in deployment situations.

B. Focus Group Conclusions

- For many enlisted women, duties and working through the chain of command interfere with their obtaining reproductive health care and preventive services. Many commanding officers attach a negative stigma to soldier's or sailor's sick call visits, viewing them as signs of weakness or attempts to escape duties. Commanders may question female soldiers about reasons for sick call, which may embarrass them and discourage them from obtaining health care for sensitive, reproductive health concerns.
- The most frequently reported barrier to enlisted women discussing their reproductive health concerns with providers is lack of confidentiality. Sick call offers little privacy, and other soldiers/sailors in the clinic can sometimes hear discussions that take place between patient and provider. Reportedly, medics also have access to and may review medical records of soldiers/sailors, both male and female. Some medics have reportedly shared confidential health information on enlisted females with male soldiers/sailors.
- An important barrier to patient/provider communication is lack of time. During sick call, soldiers are often rushed through visits. Clinicians may be unable to do an adequate sexual history and provide adequate health education.
- Follow up visits for abnormal Pap tests often take up to several months. Many women with abnormal Pap tests may not receive follow-up care, particularly if they have been deployed while they were waiting for their test results.
- Many enlisted women, particularly those with less time in the military or at a post, are unaware of the health care services available to them.
- Continuity of health care is a problem for enlisted military women because they often do not have a regular health care provider.

- Military women believe health is very important because good health is necessary to perform their duties.
- Many enlisted military women are young (under 25) and inexperienced. Many are away from home for the first time. These situations often lead to poor health decisions and risk taking.
- Some enlisted women get pregnant to avoid deployment or get out of the military. The extent to which this occurs among enlisted women is not clear. Most believe this problem occurs among a minority of enlisted women but happens often enough to make pregnancy a stigma among all enlisted women.
- Pregnant enlisted women are very concerned about how different duty activities and exposures to substances may affect their babies.
- Vaginal and urinary tract infections (UTIs) are common in deployment situations because of poor hygiene. Poor hygiene is related to both enlisted women's lack of knowledge about proper hygiene and the limited availability and inadequacy of feminine hygiene supplies. Enlisted women in the Army were more likely to note a lack of supplies during deployment than those in the Navy.
- Unintended pregnancy is a problem for both Army and Navy enlisted women, their commanders, and their units.
- Contraceptive use among military women is particularly problematic in deployment situations because contraceptives can be difficult to obtain.
- Chlamydia, herpes, and human papillomavirus (genital warts) are the most commonly reported STDs by the focus group participants.
- Diagnosis and treatment of vaginal infections and UTIs are sometimes complicated by the enlisted women's confusion between these conditions and STDs.
- The military provides enlisted women with some reproductive health education at the installation during basic training and during health care visits, mostly in the form of large classes or written materials.
- Focus group participants believe that health education must be ongoing in order to impact the day-to-day behaviors of enlisted women.

C. Secondary Analysis Conclusions

- As the number of lifetime sex partners increases for military women, so does the likelihood of having an STD.

- Women with a greater number of lifetime sex partners are more likely to have a pregnancy while on active duty than women with fewer sex partners.
- Higher satisfaction with OB/GYN care at an installation is related to military women having a recent Pap test.
- The demographic characteristics of respondents to the DoD 1995 health survey are very similar to the enlisted women who participated in the focus groups sessions for this study.
- The fact that enlisted women perceive that they get little help from existing military health education programs supports the need for the intervention proposed in this study.

D. Military Clinician and Chairperson Needs Assessment Survey Conclusions

- Clinicians and chiefs of service had very different perceptions of the common and serious reproductive health problems experienced by enlisted women, both in general and in the field.
- Clinicians and chiefs of service believe that lack of perceived risk and negative partner attitudes are important reasons for STD infection and unintended pregnancy among enlisted women. Lack of knowledge and skills were important reasons for vaginal infections resulting from improper hygiene, in general and in field conditions.
- Chiefs of service cite lack of time, staff, and skills as primary barriers to providing patient education to enlisted women during routine care visits.
- The lack of support from some chiefs of service for health education on contraception, STD prevention, and hygiene as part of standard predeployment care for enlisted women is most likely a contributing factor to the low rate of education that is provided.

E. Implications of the Completed Research

The needs assessment findings have generated several important areas for consideration in designing the reproductive health educational materials for enlisted Army and Navy women. Combined with findings from the literature review and previously completed focus groups, the findings also suggest issues that may need to be addressed in ways other than an educational intervention.

Because the project continues to be delayed by the clearance procedures necessary to accomplish the needs assessment, we can only draw preliminary conclusions. We have some indication of the content and structure of the intervention to be designed. We will also list the activities anticipated for the next year of operation.

The findings provide guidance on areas to consider for the development of the health education

materials. In terms of the intervention to be planned, the population that should receive is clearly enlisted females. The secondary analysis confirmed that enlisted women are also at greater risk for reproductive health problems than female officers, and they require a tailored application due to the significant difference in their education level and age compared to female officers. However, secondary audiences are also important. Enlisted males, health care providers, and commanders all would benefit from complementary health education on reproductive health so they will realize its importance to readiness and be able to support enlisted women and men. For example, the clinical staff who provide much care to enlisted women may need education in patient-provider communication as well as supportive women's health education. Female officers may also benefit from the materials, even though the content may be better suited to younger, less educated troops.

Findings support content that includes basic information on anatomy and physiology, STDs, pregnancy, vaginitis, and UTI. In addition, learning activities should be centered on contraception, safer sex practices, and proper hygiene under regular circumstances and when deployed. Skills in communicating with partners and health care providers are also important content. Well woman care in the breast and pelvic exam and routine tests should also be explained. Testimonials from experienced peers and simulations of decision-making experiences were positively viewed teaching methods by enlisted women because they would make the information more interesting to learn. Respondents preferred an adult education format that was not moralizing or patronizing.

Focus group participants continued to voice the loudest concern about how to best provide access to the educational materials. While use in the clinic may support the patient education efforts of clinicians, the clinic may not provide a confidential setting for use. Internet-based materials may be confidential, but enlisted personnel accessing them in a library may not be those in need of intervention. These findings support the need for a dissemination study in which the materials are examined to see where and how enlisted women use them.

The findings also point to issues that should be raised in other ways to increase awareness of the reproductive health of enlisted women and means for making a difference in health outcomes for enlisted women. Ongoing health education is needed rather than a one-time, one hour intervention. The command must value such education and health of individual soldiers and sailors so that they facilitate positive reproductive health behavior. Other enabling and facilitating factors may also need to be addressed at the unit, installation, or policy level. For example, ensuring adequate hygiene and contraceptive supplies is important to preventing pregnancy and vaginal infection in the field. Issues such as these are out of scope of this project, but we can forward information from the needs assessment to others who may be able to implement policy changes.

Over the next year of the project, we plan to conduct the following activities:

- Produce a design document and plan for the multimedia application;
- Settle on final design specifications for the multimedia application, recognizing recent advances in communications technology; and
- Establish preliminary agreements with bases who will participate in the field test of the application.

APPENDIX A

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Focus Group Report for Fort Lewis

September 15-16, 1998

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Background

The Department of Defense (DoD) contracted with Macro International Inc. to conduct a study of enlisted women's needs for basic gynecological and reproductive health education, from the perspective of military health care providers and enlisted women themselves. Based on the results of this needs assessment, a culturally sensitive, multimedia CD-ROM and accompanying materials will be developed. This intervention will then be tested in Army and Navy medical clinics in conjunction with annual Pap test screening. As part of the needs assessment, a series of focus groups were conducted to ensure that attitudes and beliefs related to reproductive health behavior of enlisted women are examined. A total of 8 groups with enlisted women, 4 groups with physicians, and 4 groups with nurse practitioners, physician assistants, and medical corps personnel were conducted at two Army and two Navy installations. At each installation, one focus group was conducted with married, enlisted women; one with single, enlisted women, one with military physicians, and one with other military providers of health care for enlisted women. This report discusses the findings of four focus groups conducted with enlisted Army women and their health care providers at Fort Lewis, Washington.

The purposes of all focus groups conducted for this project are:

- 1) To assess the most pressing reproductive and gynecological self-care education needs of enlisted women on base and in the field; and
- 2) To assess the range of current health education efforts for enlisted women.

Strengths and Limitations of Qualitative Research

Focus groups were chosen as one research method to be used in determining the reproductive education needs of enlisted Army and Navy women. Focus group research is qualitative in nature, so the results are not quantifiable. Qualitative research provides information for clarifying theories, creating hypotheses, and giving direction for future research. The results presented in this report are an objective observation of attitudes, preferences, and comments of those participating in the focus groups. Although focus group participants were drawn from the target populations of enlisted women and their health care providers, they were not chosen on any statistical basis. Therefore, no statistical inferences should be drawn from the results of the focus groups. Findings also cannot be generalized to the target population.

Methodology

Macro International conducted four focus groups at the installation hospital to address the needs of this project. One focus group of Army physician's assistants (PAs) and nurse practitioners (NPs) and another focus group of Army physicians was conducted at Madigan Army Medical Center at Fort Lewis, Washington on September 15, 1998. Two more focus groups, one

consisting of married enlisted women and one of single enlisted women, were conducted at the same location on September 16, 1998. All focus groups were held after duty hours and the participants received \$25 each for their voluntary participation in the focus groups.

Army physicians with experience treating enlisted women were recruited from the hospital. Physician's assistants (PAs) who had experience treating enlisted women were also recruited from the hospital. The participants in the clinicians' focus groups were primarily white and male. One woman participated in the PA/NP focus group. Two women participated in the physician focus group. Most participants in the PA/NP focus group had at least five years of experience treating active duty Army women. Years of Army service reported by participants in the PA/NP group ranged from 15 to 35. Participants in the physicians' focus group had, on average, fewer years of service than those the PA/NP focus group. Reported years of service among participants in the physician focus group ranged from 3 to 23. Many of the physician participants had extensive experience delivering gynecological care to enlisted women.

Enlisted women were recruited from several divisions. The majority of these participants held medical and administrative support positions. Participants in the married, enlisted women's focus groups were primarily African American. The single, enlisted women's focus group included a good mix of women of various ethnicities. At least two African American, two Caucasian, and two Hispanic women, and at least one Asian woman participated in the single enlisted women's focus group. Most enlisted women participating in the focus groups had less than four years of service in the Army. On average, the married women had more years of service than the single women. Time in the Army for the married enlisted women ranged from 19 months to 18 years. Few of the enlisted women had been deployed overseas. However, most participants in the enlisted women's focus groups had some field experience.

Major Diane Flynn, M.D., who serves at the installation hospital recruited all focus group participants. A screener was developed at Macro International Inc. to be used as a guide by Dr. Flynn for selecting focus group participants.

A moderator's guide was also developed at Macro International Inc. to answer the general questions listed in the background section of this report and to obtain other feedback that may be useful in developing an educational CD-ROM to help enlisted women care for their reproductive health. The moderator's guide was approved by the internal review board at Macro, the U.S. Army Medical Research Acquisition Activity at Fort Detrick, Maryland., and the head of Clinical Investigations at Madigan. All focus groups were led by a trained moderator from Macro International Inc. A project manager, who is an experienced focus group moderator from Macro International Inc., also observed the focus groups and took notes. Both focus group facilitators from Macro were female. Dr. Flynn also observed the focus groups. All focus groups were audiotaped.

General Findings

Below are the general findings of the four focus groups conducted at Fort Lewis for the project, "CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women." The findings are organized under the general categories of topics covered in the moderators' guides (see Appendices C and D).

General Health

According to both the clinicians and the enlisted women who participated in the focus groups, health and fitness are highly valued in the Army. Expectations for health and fitness among enlisted women go beyond the requirements for enlistment and retention in the Army. Participants in the focus groups agreed that good health in the Army is very important because it is critical to readiness. If one soldier in a company is down because of health problems, the effectiveness of the company is affected. A soldier who is not in top physical condition may risk injury when engaging in duties such as physical training (PT) and hard labor in the field. For this reason, preventive health is emphasized in the Army. Soldiers' health is more closely monitored because regular physical exams are free and mandatory. For this reason, and because good health is vital to the performance of their duties, enlisted women tend to be aware of preventive measures relative to civilian women. As a result, health problems may be identified more quickly in the active duty population.

Clinicians recognized that enlisted women are very concerned about their health and will use health care services if they are available and convenient. Clinicians who participated in the focus groups also noted that enlisted females appear more interested than enlisted males in their health. The women utilized health care more often and expressed more interest in receiving health education. However, some participants in the PA/NP focus group said that many enlisted women did not appear to be concerned about their reproductive health until they experienced a problem such as an STD or pregnancy. The overall sense among the physicians was that the general level of reproductive health knowledge among enlisted women was unknown. However, physicians were fairly certain that enlisted women knew more than they practiced. They also noted that the women generally know more than the men about reproductive health because women, at a minimum, must deal with menses. Women are usually the ones making the contraceptive decisions as well.

Women in the Army are often likely to put their health at risk because of the military environment. Military women are placed in competition with males and often attempt to "out do" males physically and sexually. Women may also hesitate to take advantage of health care services or go to sick call because their commanders (male or female) and/or male soldiers may view them as "weak," accuse them of whining, or accuse them of using female complaints to get out of duty. During field exercises, commanders may refuse a soldier's request to go to sick call. According to some enlisted women, this is especially true for medics, who are expected to "know better" than to get sick.

According to the clinicians, the unique characteristics of the population of Army women also put them at risk for poor health behaviors. Most military women are young (under 25) and inexperienced. Many are away from home and parental support for the first time. These situations often lead to poor health decisions and risk taking. Clinicians also feel that many soldiers are simply too young and immature to deal effectively with the stressors of military life. They believe that many soldiers engage in risky behaviors in order to temporarily escape the stress of military life. Clinicians added that most soldiers are kept in line during basic training by their drill sergeants. They are therefore most likely to engage in risky behavior when they arrive at their first post and experience a certain amount of autonomy, often more than they have ever had in their lives.

Pregnancy

Unintended Pregnancy

Participants in both enlisted women's and clinician's focus groups reported that unplanned pregnancy in the Army was fairly common. Some participants estimated that more than half of all pregnancies among Army women were not planned. Physicians believed this rate of unintended pregnancy to be about the same as that of the general U.S. population. However, some physicians also said that they were "shocked" at the number of sexually active enlisted women who do not do anything to prevent unintended pregnancy. Enlisted women have a slightly different perspective. Their comments suggested that certain conditions in the military may encourage unintended pregnancy. For example, soldiers may be discouraged from bringing contraception into the field, or it may simply be unavailable. It is assumed that soldiers will follow regulations and not engage in sexual relations while in the field. However, because of the ratio of males to females, women in the Army receive a great deal of sexual attention, even in the field. These women are often too young and inexperienced to deal effectively with this type of attention, and pregnancy "just happens."

Apparently, many enlisted women are indifferent about getting pregnant, perhaps because of the supports the military provides for pregnant women and single parents. Participants' comments also indicated that what is commonly defined as "unintended pregnancy" may be intentional for some enlisted women. Some participants believe that some Army women get pregnant to avoid deployment, get out of the military, or simply gain more pay and benefits. Some enlisted women may also use pregnancy to get a profile that allows them to be released from certain duties or activities. Enlisted women complained that the few women who use pregnancy in this way have created a stereotype among commanders who may accuse any pregnant enlisted woman of getting pregnant to get out of something as basic as a physical training (PT) test. Participants disagree as to the extent to which Army women get pregnant for these reasons. Most participants believed that a minority of enlisted women get pregnant in order to get out of duty, deployment, or the military. However, pregnancy among enlisted women can create significant problems in the military. For example, one clinician mentioned a Navy ship that had evacuated 40 to 45 female sailors because of pregnancy.

Clinicians explained that pregnancy among enlisted women became an important issue during Operation Desert Storm because of the rapid expansion of women in the military. During Operation Desert Storm, the Army was generally unprepared to deal with pregnancy among enlisted women. Several women became pregnant before deployment, but their pregnancy was not diagnosed until after they deployed. In the field, pregnancy tests were often unavailable and clinicians had to diagnose a suspected pregnancy with a pelvic exam. Some clinicians pointed out that many enlisted women were not aware that they were pregnant. For example, one clinician reported seeing enlisted women who were unaware they were pregnant until they were ready to deliver. Because of many enlisted women's lack of knowledge about pregnancy and their own body, clinicians feel they need to take greater initiative in testing enlisted women for pregnancy before deployment.

According to the clinicians, many commanders have attempted to control unintended pregnancy by requesting that the women in their command be on birth control at all times. Some enlisted women will resist this request in order to retain control over their reproductive capabilities. Clinicians suggested that further research is needed to identify the types of enlisted women who get pregnant, and, specifically, those women who do not use birth control consistently and correctly. Identifying characteristics of enlisted women who experience unintended pregnancy may be the first step toward significantly reducing the rate of unintended and mistimed pregnancy among enlisted women.

Pregnancy Care

In the focus groups at this installation, participants more often mentioned issues for pregnant enlisted woman than issues for enlisted women who want to prevent pregnancy. Both enlisted women and clinicians repeatedly brought up issues related to pre- and post natal care for women in the Army.

Many participants in the enlisted women's focus groups expressed a lot of concern about how field duty, PT, and exposures to toxic substances may affect their pregnancies and the babies they deliver. They were concerned about issues such as the effects of anthrax on the reproductive system and pregnancy, how to breastfeed while on active duty, expressing milk in the field, how long a pregnant woman can safely be in the field, and the impact of certain physical activities on pregnant women. Some married enlisted women felt that the Army should not allow pregnant women to go to the field. Others disagreed and stated that whether and how long a pregnant soldier should have field duty depended on her specific duties (e.g. whether heavy lifting was involved) and whether she had a "high risk" pregnancy. Participants gave examples of women who continued to perform all their normal duties as a soldier well into their pregnancy and had no problems. They also gave examples of women who took advantage of their pregnancy. For example, pregnant soldiers had made prenatal appointments they did not attend just to get out of duty. Other pregnant soldiers had directed their physicians to include in their profile that they could not perform certain activities that they simply considered unpleasant. As a result of these abuses, some clinicians may hesitate to include women's legitimate complaints in a profile.

Most enlisted women understood that pregnancy was not considered acceptable for soldiers, even if they were married. Single enlisted women stated that pregnancy was viewed as a "disease" among enlisted women but not officers.

Contraception

The preferred form of contraception among enlisted women is still birth control pills. However, more women are requesting DepoProvera because it is difficult to bring birth control pills into the field, and DepoProvera is more cost effective. DepoProvera also stops menstrual bleeding in some women, which some see as a benefit. However, DepoProvera can also cause continuous bleeding and other side effects in some women, which may explain why many enlisted women have refused DepoProvera shots even at their commander's urging. Enlisted women also said that it is difficult to get an appointment to get a DepoProvera shot, which must be administered every three months. Clinicians report that more enlisted women are using condoms but fear that they may not be effective, will not feel right, or males will think they are promiscuous for having them. Both women and health care providers prefer to avoid Norplant. Women who have used it have reported menstrual problems, and it is hard to remove.

Contraceptive use among military women may be problematic for a few reasons. First, weight gain caused by hormonal contraceptives may make it difficult for stockier women to stay within military weight standards. One solution to this problem that was proposed in a clinician's focus group was that health care providers recommend that heavier women use low dose birth control pills. Contraceptives are also difficult to obtain in the field. During long term deployment overseas, contraceptives and other medications may be depleted or simply unavailable.

Sexually Transmitted Diseases (STDs)

The most commonly reported STDs by the participants were chlamydia, herpes, and human papillomavirus (HPV), or genital warts. Other STDs, such as trichomonas and syphilis, were considered rare among Army women. Some clinicians have seen a sharp rise in the number of abnormal Pap tests and believe that HPV infection is on the rise. Clinicians also stated that herpes and chlamydia are very common among enlisted women, but these STDs often go undiagnosed or are misdiagnosed as chronic urinary tract infections (UTIs) or vaginal infections.

Many STDs in females go undiagnosed for extended periods because females experience few, if any, symptoms. According to physicians, chlamydia often does not get diagnosed until a woman gets treated for pelvic inflammatory disease (PID). Because of the lack of symptoms and the fact that females have more long-term complications as a result of STDs, some clinicians would like to screen female soldiers for STDs such as chlamydia and herpes regularly. However, other clinicians pointed out that enlisted women do not normally want to come to the clinic for STD testing. Use of non-invasive methods for STD screening may be an alternative in the future. Enlisted women also suggested that clinicians routinely test women for common STDs during their annual pelvic exam. Clinicians also said that health care providers need to identify

partners of female soldiers infected with STDs and treat them to avoid reinfection. Partners are usually other soldiers; but nonmilitary partners usually cannot be treated by military clinicians because of liability issues.

The STD infection rate among Army women of 27.8 percent, reported in the *1995 Department of Defense Survey of Health Related Behaviors among Military Personnel* seemed low to many participants. Participants guessed that the proportion of enlisted women who have been infected with an STD to be from 40 to 90 percent. Health care providers indicated that the STD rate in the *1995 Survey of Health Related Behaviors among Military Personnel* may be inaccurate, since many STDs in women are undiagnosed, particularly among young, single women. One clinician pointed out that a University of Washington study had found HPV in the bloodstream of 70 percent of subjects, and 100 percent of those with multiple partners. Another clinician cited an estimate that 40 percent of adults have been infected with some form of HPV by the age of 25. One clinician said that about 50 percent of the women seen in her clinic test positive for HPV infection. Most did not know they were infected. However, another clinician pointed out that all clinicians who work in "STD" clinics will perceive the infection rate to be high. Some participants in both clinicians' focus groups had experience the "STD clinic" at the hospital.

STD clinics or education programs can have a negative stigma attached to them. Some female soldiers are embarrassed to make use of these services on a voluntary basis. Others feel they have greater privacy at an STD clinic because it is in the main hospital rather than in the troop medical clinic (TMC).

Prevention

Participants' comments suggested that prevention of STD infection may not be adequately emphasized in the Army. The greater focus, at present, may be on diagnosis and treatment. According to physicians, enlisted women tend to worry about STD infection after the fact, when they go to the STD clinic and ask to be tested for "everything." Many participants agreed that enlisted women need to discuss what safe sex is. Physicians admitted that health care providers and other health educators in the military also need to learn what safe sex is, in order to appropriately educate the people they serve. Most clinicians agreed that enlisted women need to learn more about barrier methods of contraception, particularly condoms, in order to protect themselves from STDs. These clinicians also indicated that education about barrier methods that help protect women and their partners from STD transmission should be offered as early as possible, preferably in basic training.

Participants in the enlisted women's focus groups mentioned several barriers to enlisted women protecting themselves from STD infection. Some women may fail to protect themselves from STDs simply because of inaccurate beliefs or information. For example, many women believe that males in the Army are safe sexual partners because they are tested for AIDS before entering the military. However, some enlisted women in these focus groups recognized that males in the military may have AIDS. Soldiers are only tested every two years, unless they are deployed. Enlisted women may also fail to use condoms because they believe they are promiscuous for

having them, their partner does not want to use them, or they have allergic reactions to the latex or lubricant.

Genitourinary Infections/Hygiene

Participants in the focus groups of enlisted women appeared most concerned about issues related to hygiene and the prevention and treatment of common genitourinary infections. Both enlisted women and their health care providers reported that vaginal infections and UTIs are common among enlisted women. The majority of these infections were attributed to poor hygiene practices, particularly in the field.

Hygiene Issues for Enlisted Women

Several statements made by participants in the enlisted women's focus groups suggested that the predominantly male environment in the Army makes it difficult for female soldiers to consistently practice proper hygiene. Participants indicated that women tend to attribute more importance to good hygiene than men, partly out of habit, but also because they are more prone to genitourinary infections as a result of poor hygiene. Enlisted women noted that many male soldiers either do not know or do not care when "they stink." What women need in order to practice good hygiene is also different from what men need. For example, male soldiers do not need to deal with hygiene issues related to menstruation while performing their duties. Males may not understand what women need to do to care for themselves, and may perceive women as taking too much time to clean themselves. According to participants, the Army has not adequately dealt with the unique and probably greater need female soldiers have for maintaining good hygiene while performing their duties.

Both the health care providers and the enlisted women acknowledged that conditions in the field make proper female hygiene practices especially difficult. In the field, there are limited opportunities for both male and female soldiers to bathe, change clothes, or relieve themselves. Units with more women are more likely to have access to showers in the field. However, women in predominantly male units may not be able to shower at all while in the field. Women need to learn to take advantage of every opportunity for a shower in the field. Women frequently use baby wipes to clean themselves in the field, but many women reported that baby wipes are inadequate for maintaining hygiene. Perfumes in baby wipes can also cause or aggravate allergic reactions and/or infections in the genital area. Some more experienced enlisted women suggested that a basin and wash cloth need to be brought into the field to maintain personal hygiene. A canteen cup, bedpan, or cookie tin can also be used as a basin. Some enlisted women noted that a portable shower can also be brought into the field, but this is not generally done. Many enlisted women thought that the Army should issue materials to help soldiers keep clean in the field. Elimination facilities are also inadequate in the field, according to the focus group participants. Women reported that "porto potties" are available in the field, but they are usually filthy and sometimes filled to the top. They also do not have sinks for handwashing. Many women said that they try to minimize their trips to the "porto potty" and do not clean

themselves after elimination because these facilities are so unclean. Women also reported that they often needed permission to leave duty to use the "porto potty," and permission was not always granted.

Clinicians acknowledged that few products necessary for maintaining basic feminine hygiene are included in field packs or available in the field. Enlisted women said that, because of the lack of resources in the field, women need to know how to keep themselves clean and protect their own health during deployment. Women also need to know what to expect in the field so that they can prepare the items they will need to bring in advance. For example, women may not expect to have their period during a short field exercise, but the field environment is often so stressful that a woman's menstrual cycle may be irregular and breakthrough bleeding may occur. Female soldiers need to know what they should always bring into the field and how much. At this installation, a list of hygiene products that women may need to bring into the field is available. Women also have the option of going to the PX during breaks from local field exercises. Enlisted women and clinicians in the focus groups gave a few suggestions for items women need to bring into the field in order to maintain good hygiene.

- ▶ Sanitary pads regardless of whether a woman expects her period.
- ▶ Panty liners, which protect from spotting and can be changed when clean underwear is not available.
- ▶ A wash basin and wash cloth.
- ▶ Enough sets of clean, white, cotton under clothes to change twice daily.

Many women get UTIs in the field because they do not relieve themselves regularly, and they drink little water to avoid the need to urinate. In the field, the nearest latrine is often a good distance away, and field activities may not leave women enough time to go there or at least find a private spot where they can relieve themselves and clean up.

Prevention and Treatment of Genitourinary Infections

Vaginal infections and UTIs are common in the field because of poor hygiene. Women get vaginal infections and UTIs in the field, in part, because they do not urinate or clean the genital area frequently due to a shortage of female sanitary supplies as well as clean, private, accessible elimination facilities. Additionally, health care services in the field are minimal, so vaginal infections and UTIs generally cannot be treated there.

Most women who experience a vaginal infection in the field reportedly go to sick call to get a cream to treat the infection. Some women opt not to go to sick call and attempt to treat themselves in the field, often using douches which may worsen the infection. Diagnosis and treatment of vaginal infections and UTIs are sometimes complicated by the soldiers' confusion between these two conditions and STDs. Some women who experience simple vaginal or urinary tract infections believe they have an STD. This confusion may come, in part, from the fact that bacterial vaginosis, the most common type of vaginal infection, is treated in the same way that sexually transmitted trichomonas is treated. Additionally, frequent UTIs may also be an

indicator of a chlamydia infection, but not necessarily.

Health Care in the Military

Barriers to Effective Utilization

Enlisted women may fail to obtain annual exams or other health care in a timely manner because of a lack of confidence in the quality of care they normally receive at the Troop Medical Clinics (TMCs). Several enlisted women mentioned cases in which women received incorrect or inadequate treatment for various conditions. Many enlisted women felt that the PAs are not trained to handle some of the conditions they treat, particularly gynecological conditions. Clinicians at the TMC may also assume that most patients are just trying to get out of duty and thus do not take their complaints seriously. Some women said that PAs often hesitate to refer women to a specialist at the hospital when they are having difficulty diagnosing or treating a condition. These PAs may assume that a condition they cannot diagnose or treat is not legitimate. Follow up care may also be inadequate. Participants in both clinician and enlisted women's groups reported that follow up visits for abnormal Pap tests often take several months to schedule. Many women with abnormal Pap tests do not receive follow up care, particularly if they are deployed before the scheduled follow up visit. Some enlisted women said that they had given up on getting health care, at least at the TMCs, because they only receive ibuprofen and/or a pregnancy test after waiting an hour.

Another concern voiced by the enlisted women in the focus groups was that the continuity of care suffers as a result of the soldiers not having a regular health care provider. Enlisted women said that they would prefer to have a regular provider who knows their history and therefore can provide them with more appropriate care. One consequence of not having regular health care providers for soldiers is that many health problems that require follow up care or testing, or that do not improve, may go untreated or mistreated by a new clinician when the profile is not changed. According to some enlisted women, the profile may not be changed even when a soldier's condition does not improve.

Privacy and confidentiality in care were important concerns for enlisted women. However, participants in both the clinician's groups and the groups of enlisted women admitted that sick call offers little privacy. Confidential medical information has been shared by the medics who have access to the medical records. For example, one physician mentioned that a medic had recently received disciplinary action for sharing medical information on an enlisted female with other soldiers. Both the PAs/NP and the enlisted women reported that the lack of privacy and confidentiality at the TMCs leads many female soldiers to seek medical care at the hospital emergency room rather than go to the TMC. Enlisted women also said that many of them go to the OB-GYN clinic at the hospital to obtain gynecological care. In general, the enlisted women expressed a preference for care at the hospital because of the greater availability of highly trained clinicians (e.g. physicians or registered nurses as opposed physicians assistants and medics), the availability of specialized care, the increased time and attention that can be given to individual patients, and the increased privacy. Soldiers believe that care at the hospital is more

private since it is not directly connected to most soldiers' commands. The PAs at the TMC often have the same commander as the soldiers who use that TMC. The soldiers may therefore fear that the PA will divulge their personal medical information to the commander.

Although the clinicians disagreed as to whether access to care was a problem at the medical facilities at the installation, nearly all participants acknowledged that soldiers frequently have to go through their chain of command in order to obtain care, which can pose a significant barrier. Many enlisted women reported that they must explain their condition to their commanders when they go to sick call during duty hours. Physicians discussed the need to add evening and weekend hours at health care facilities so that more soldiers will seek care. However, enlisted women indicated that even a soldier who obtains health care on off-duty hours may be questioned about her health problems or the profile she received. Commanders often attach a negative stigma to a soldier's sick call visits in general, viewing them as signs of weakness or attempts to escape duties. Commanders may therefore pressure soldiers not to take time to care for their health or obtain professional care during duty hours. Commanders also expect their soldiers to be in top condition and may view care seeking even during off-duty hours as an indication of a problem that may interfere with their soldier's ability to perform.

Time pressures in the Army may also interfere with enlisted women's ability to obtain quality health care. According to participants in clinician and enlisted women's groups, active duty women, on average, have less time to care for their health than their civilian peers. For example, some clinicians reported that they have often heard from enlisted women statements such as "I was too busy to get birth control." Enlisted women also said that they often did not have adequate time to recover from certain conditions. An example was given of a woman who had kidney stones but was not given any time to recover. Clinicians may also have less time available to provide quality care because of the large volume of patients seen, especially at sick call. During sick call, a large number of soldiers are seen in a relatively short period of time. Time pressures created by this situation leave little time for clinician/patient communication.

Comments made by participants in all focus groups suggest that many enlisted women, particularly those with less time in the military or at a post, are unaware of the health care services available to them. According to some of the clinicians, many younger enlisted women who are new to the Army or to their post have no sense of what they need to do to care for their health. Many do not even know about either their need or the Army's requirement for an annual Pap test.

Preventive Health Care Practices

Preventive health care for most enlisted women is comprised of the annual Pap test and an occasional pregnancy test. Most enlisted women report that they regularly receive pelvic exams and Pap tests. According to both enlisted women and PAs, many clinicians also give pregnancy tests to enlisted women when they have the opportunity. A health risk assessment is also supposed to be done for all soldiers every five years, but this does not always happen because of frequent relocations. Additionally, the unit has to request that a health risk assessment be done.

Military Health Education

Enlisted women who participated in the focus groups were interested in receiving education about reproductive health issues. Participants in the clinician's focus groups noted that enlisted women tend to be more interested in receiving general and reproductive health education than enlisted men. Participants also believed that enlisted women need reproductive health education. Clinicians reported frequently hearing from their enlisted female patients that "no one ever told me..." (something vital about their reproductive health).

Offered

The general consensus of participants in all focus groups was that some reproductive health education has been given to enlisted women at the installation. Corporate wellness classes (general health classes for all soldiers) are given at the hospital annually. Enlisted women felt that these classes were too brief and the classes too large. However, the women also mentioned that the corporate wellness classes taught them a lot and they liked getting that education. Most enlisted women also reported receiving some reproductive health classes during basic training. Focus group participants described these classes as consisting of lectures and films briefly covering topics of relevance to both sexes, such as STDs. Both the health care providers and the enlisted women felt that these basic-training classes were fairly ineffective. After basic training, most enlisted women are not encouraged to receive reproductive health education, although it may be offered on base. Enlisted women said that soldiers who are interested in receiving this type of health education often have difficulty getting released from duty to get the education. Participants in the focus groups of enlisted women said that the only education promoted for women at their post dealt with sexual harassment.

Clinicians reported being involved in several classes that gave soldiers some reproductive health education. Clinicians also noted that opportunities to educate about reproductive health issues can be taken during other types of health education. For example, one clinician says that he uses talks about medications to discuss birth control pills.

Written information on reproductive health issues such as Pap tests, breast self exams, STDs, and birth control is available at the hospital, often in the form of pamphlets. However, no pamphlets on women's reproductive health are available at the TMCs outside of the hospital. Clinicians at the hospital have reportedly made more of an effort over the past year to distribute pamphlets on contraception to enlisted women. TRICARE also mails information on reproductive health to all married soldiers. However, single soldiers receive nothing similar. Some health care providers suggested that this information be made available at the barracks.

Needed

A number of suggestions were offered during the focus groups for developing an effective reproductive health education program for soldiers. Because of the variety of suggestions offered by participants, the discussion of what is needed in a reproductive health education

program is divided into several categories including: content, format, timing, target audience, and dissemination.

Content

The content of any reproductive health education program for enlisted women should start with the basics of how the female reproductive system works and what affects this system. Many enlisted women have knowledge gaps in this area. In particular, enlisted women need to know how a woman gets pregnant and what happens to her body during pregnancy. Women also need to know the effectiveness of different contraceptive methods, including condoms. According to clinicians, enlisted women also need to know how diseases of the reproductive system can alter or damage that and other systems in the body. If women understand the potential consequences of different reproductive health problems, they may be more motivated to protect their reproductive health. Enlisted women also saw the need for basic information on what the STDs are and how they are diagnosed and treated. Many enlisted women reportedly do not know what certain STDs are. For example, a woman may be told she has chlamydia, get treated for it, and never realize that she has had an STD.

Many women also do not understand the purpose of basic gynecological (GYN) exams and Pap tests. Some assume that they are being examined because they have some problem. Women need to understand the reasons for obtaining annual GYN exams, what to expect during this exam, what they are tested for, what questions to ask, how to know when there is a problem, and what to do about it.

Since many women in the military get pregnant, and pregnancy no longer guarantees that an enlisted woman will be released from service or her day-to-day duties, enlisted women need information on how to protect their own and their baby's physical and mental health during and after pregnancy. Participants suggested including information on substances to avoid and how they affect both mother and child (e.g. smoking, contraception, medications taken during deployment, toxic substances soldiers may be exposed to in carrying out their duties). Participants also frequently mentioned issues of breastfeeding while on active duty. Reportedly, many enlisted women do not know the benefits of breastfeeding or how to continue breastfeeding while performing duties. For example, some women have continued to use a breast pump in the field and saved the breast milk for their babies by carrying a freezer pack into the field. Physicians pointed out that little or no specific health information is available for mothers on active duty. Most information available for mothers on base is not distributed outside the hospital. Additionally, most of this information is obtained through nonmilitary sources and is primarily available for spouses of male soldiers. Little or no information is tailored to the unique needs of pregnant women and new mothers who are also soldiers.

Clinicians also emphasized that social or peer pressure issues should somehow be covered in any intervention directed at preventing unintended pregnancy and STD infection. For example, soldiers may view sex outside of marriage or a monogamous relationship as less "sinful" if it occurs in the "heat of the moment" and is apparently not expected or planned for. Use of

condoms and/or other forms of contraception is an indication that sexual activity was at least considered to be a possibility by the user. Both clinicians and enlisted women also mentioned the issue of self-esteem and felt that the women who took the greatest risks with their reproductive health likely had the lowest self esteem. Enlisted women may need tools to help them develop a sense of self worth so that they can resist peer and partner pressure and see their own health as worth protecting. Enlisted women also mentioned that teaching women how to effectively communicate with their partners may help reduce risky sexual activity. They suggested that Army women need to learn how to communicate more effectively, in general. They suggested that overall improved communication skills with peers would help women communicate more effectively with males and females in every situation. Several clinicians and enlisted women also felt that the Army might need to take stronger steps to promote the message that abstinence is a norm, expectation, and a positive quality for unmarried males and females in the Armed Forces.

Another informational need that was emphasized by the focus group participants, particularly the enlisted women, was hygiene in the field. Women do not know how to adequately maintain proper hygiene and protect their genitourinary health in the field. Women need to know what to bring into the field and how much. More experienced female soldiers have developed techniques for self-care in the field; and know how to locate resources that help enlisted women protect their health. The collective knowledge of experienced female soldiers needs to be shared with new recruits.

Enlisted women also expressed that they would like to have better communication with their health care providers. Women said that physicians should be more proactive in educating as well as treating soldiers. These participants felt that doctors should ask and invite questions. Participants also said that enlisted women need to take responsibility for their own health and be proactive in asking for the information and care they need. However, they felt that many enlisted women do not know what to ask or how to deal with their health care providers. Enlisted women need to know what questions to ask their clinicians, and how and when to get a second opinion.

Enlisted women also need to know that they have options for treatments and providers, what those options are (e.g. providers could include a PA at the TMC, physician, or nurse at the hospital, or civilian doctor), and the pros and cons of each option. Women also need information on how to access the medical system at an installation, since they are not briefed in this area. Some single enlisted women said that many women at the installation do not know how to go to sick call, how to obtain OB-GYN care, or what hours the TMC and hospital clinics are open.

Format

Most participants agreed that reproductive health education would not be effective unless it was delivered in an interactive format that allowed users to select and respond to information and to practice making health decisions. Too much health education in the military is delivered in a lecture format, in which soldiers are often directed rather than encouraged to actively make their own decisions. Most enlisted women reported that this type of health education was boring, and

they did not retain much of what was taught. Clinicians also recognized that this format did not work well with enlisted personnel, in general. Participants said that an effective health education intervention would:

- ▶ Involve information sharing, teaching, and interaction between soldiers (particularly woman-to-woman);
- ▶ Have interesting and current visuals;
- ▶ Include decision-making exercises;
- ▶ Have role playing activities and/or "true-to-life" scenarios that model positive behaviors;
- ▶ Use an adult education format that provides the user with tools to change her own behavior but does not "talk down" to the user;
- ▶ Include stories or quotes from real soldiers;
- ▶ Be updated and delivered on an on-going basis so that users can stay current and retain the information;
- ▶ Have at least a portion that is mandatory;
- ▶ Be accessible at the barracks;
- ▶ Be interactive; and
- ▶ Include accurate information on local resources and services to help women protect their reproductive health.

Timing

Participants said that reproductive health education should be provided to soldiers as early as possible, since most enter the military at a young age, with relatively low levels of health education. Some participants felt that more effective reproductive health education should be provided during basic training, since that is all soldiers' introduction to the Army as well as their first field experience. Several participants in both clinician's and enlisted women's groups suggested that some type of health education for soldiers also be provided during in-processing at each installation so that women will know what to conditions to expect and how to protect their health using the resources available at that location. Both clinicians and enlisted women noted that many women enter the Army without knowing what to expect.

Participants, particularly the enlisted women, also wanted education to be on-going so that women could keep current. They also felt reiteration would help remind women about protecting their reproductive health and increase learning as material was repeated. Enlisted women thought that new recruits needed to receive more detailed reproductive health education more often. Participants in both clinician and enlisted women's groups agreed that reproductive health education that was not on-going and regular would have little impact on the day-to-day behaviors of enlisted women. Some physicians suggested that health education sessions be conducted as often as every week to allow enlisted women the opportunity to recall what they have learned and keep updated on new information that may affect their reproductive health.

Target audience

Although most participants agreed that reproductive health education was most critical for women under age 25 and needed to be delivered as early as possible, many participants indicated that older, better educated, more experienced enlisted women also need on-going, reproductive health education. Clinicians offered examples they had seen of female officers in their 30s needing basic information on pregnancy issues, such as how to stop using a breast pump.

Participants in all four focus groups indicated that any reproductive health education intervention should be developed for use by both males and females in the military. Clinicians emphasized that the males need education about reproductive health as much as the females. Reportedly, an existing pregnancy prevention program at this installation does target the males. Although enlisted women said that they would want the option of receiving reproductive health education privately or without the males being present, they also said that the males would benefit from receiving education about reproductive health, particularly female reproductive health. Some of the enlisted women added that they might resent a requirement to receive additional education that males were not required to receive. Males may also resent the fact that they do not receive the same level of reproductive health education as the women. Several participants believed that enlisted females would likely benefit from any program that increased the awareness of enlisted males with regard to women's unique health concerns. Some enlisted women pointed out that men do not understand their unique health problems and often accuse them of "whining" or trying to get out of duty when they have legitimate health problems. Also, both enlisted women and clinicians felt that enlisted males need to have a better appreciation of their part in pregnancy and STD transmission. For example, participants in all focus groups appeared to agree that pressure from male partners, usually other soldiers, is a major factor in female soldiers engaging in sexual activity and unprotected sexual activity. Males also need to know the health issues that may arise for their partners and other females in their unit when they are pregnant. For example, male commanders often do not know how to treat pregnant females in their command aside from the recommendations in the pregnant soldier's profile. Males also need to know how to protect both themselves and their partners from STD infection and unintended pregnancy. For example, clinicians reported that many males seem unaware of the fact that females infected with certain STDs are often symptomless and do not know they have an STD. Males also need to know the unique consequences for both males and females when an unplanned pregnancy occurs or when someone becomes infected with a particular STD. For example, males may need to be made aware of the amount that may be deducted from their pay in order to provide child support.

Whether or not a reproductive health education program targets only enlisted women, it will need to be culturally sensitive in order to target the diverse cultures and ethnic backgrounds that soldiers in general, and enlisted women in particular, come from. For example, feedback from the participants in the enlisted women's focus groups indicates that sex is a taboo topic, at least for young females, in many families. Hispanic and Asian families may be less likely to openly discuss sexual and reproductive issues with their daughters relative to families from other cultural backgrounds. As a result, many Hispanic and Asian women who enter the military may have a greater need for reproductive health information that is delivered in a culturally sensitive, private, and confidential way.

Dissemination

Several comments from focus group participants suggested that women's self-care and preventive behavior may suffer because the system for disseminating information on services and resources currently available to enlisted women is fairly ineffective. Participants indicated that there is a lack of knowledge and communication about the services and support available to help enlisted women maintain their reproductive health, particularly in the field. Participants in the PA/NP group emphasized enlisted women's need for basic information on how to access health care. Some believed that this topic should be covered during basic training, but was not.

During the discussion of the system for disseminating information on existing resources and services, participants were asked what they thought was the best method for delivering education on women's reproductive health and disseminating information on services and resources available to help enlisted women maintain their reproductive health. Clinicians suggested that:

- ▶ An NCO (preferably female) be responsible for disseminating information to all enlisted females and making sure they have all necessary supplies.
- ▶ Education become part of basic training.
- ▶ There be a unit level program for educating and disseminating this information.
- ▶ Health care providers be involved in educating and disseminating information.
- ▶ Education be provided and materials distributed as part of in-processing.
- ▶ Older female soldiers impart their experience to younger soldiers in classes or other interactive settings.
- ▶ Use a variety of channels to reach enlisted women with reproductive health education (i.e. media, Internet) since different women will prefer different channels of communication.

Enlisted women suggested that:

- ▶ Groups similar to the focus group being conducted be used to educate women about reproductive health and disseminate information in this area. The women liked the interactive group setting and used it to discuss their own experiences and share information with one another.
- ▶ The annual health classes at the hospital be used to focus on women's health issues.
- ▶ Doctors be more proactive in educating women at each visit. For example, when they give DepoProvera injections, they should warn the women that this contraception does not protect from STD infection. Clinicians should invite and ask questions.
- ▶ Women be asked about STD/health issues at monthly counseling and be educated at that time. Currently, this type of counseling is used to deal with non-health related issues such as finances.
- ▶ Women teach other enlisted women about hygiene and other reproductive health issues.
- ▶ Education be delivered at the unit level.

Computer-based Education

No participants specifically suggested that education be disseminated using computer technology. When asked what participants thought of a computer-based health education program, they generally responded positively but had a few reservations. Participants mentioned a few computer-based health education programs available at the installation that appeared to be at least somewhat successful. One program was entitled PACE, which provides information on birth control options for enlisted women. Clinicians believed that this computer-based education program had been well received. Several participants also pointed out that there is a health kiosk at the hospital that is frequently utilized, but the enlisted women reported that they had never used this. In general, most participants felt that the majority of enlisted women are computer literate and will likely use computer-based programs if they are publicized and easily accessible.

However, most enlisted women do not have their own computer on base and soldiers rarely have access to computers in the field. Clinicians pointed out that several computers are available for use at the education center, but only a subset of soldiers make use of these computers. They suggested that portable computers be brought into the field and that computers be available at the barracks to allow soldiers to use this intervention. Other locations where a computer-based health education program might be used by enlisted women are in the day room at the barracks or on an intranet/home page. Assuming some of the main barriers to access could be overcome, participants saw several advantages to having a computer-based health education program available to enlisted women, including:

- ▶ Women can be educated before meeting with health care providers, so that the women are prepared.
- ▶ Women would have the freedom to explore different topics at their own pace.

Education Recommendations

- ▶ Content should start with basics of how the female reproductive system works, what affects this system and how, how women get pregnant, etc. Many women have knowledge gaps in this area.
- ▶ Enlisted women also need to know how to assess their reproductive health by recognizing indicators of good health and indicators of potential health problems.
- ▶ Women need to know how different medications affect their body and reproductive health, particularly contraceptives and medications they must take during deployment.
- ▶ Women need to know what STDs they can contract in the military, their likelihood of becoming infected at each sexual encounter, and the consequences of specific STDs (e.g. HPV is incurable and may lead to cervical cancer at a relatively young age). Information will need to emphasize the severity and complexity of STDs and their impact on the body.

- ▶ Enlisted women want to know what questions to ask a provider.
- ▶ Enlisted women need to know the differences between vaginal and urinary tract infections and the various STDs. Women need to know that similar symptoms and treatments may accompany very different diagnoses.
- ▶ An adult education format should be used for teaching enlisted women. They will not respond as well to lectures or being "talked down to." Education that addresses women's issues at different stages of the behavior decision making process was suggested.
- ▶ Education should be interactive and get women involved. Most current health education in the military is viewed as boring and easily forgotten because it is delivered in a lecture format.
- ▶ Women need reproductive health information in basic training or during in-processing upon arrival at an installation.
- ▶ Males should be educated about female reproductive health. Males also need education on preventing STD transmission and unintended pregnancy.
- ▶ Commanders need to be educated and held responsible for the health of the females under their command. They need to be convinced that increased health care and education will improve readiness.
- ▶ Commanders also need to know how to deal with sensitive health issues for those in their command without compromising the soldier's privacy.
- ▶ Most participants like the idea of a computer-based education program because of the privacy and interactivity it offers. However, many soldiers have limited access to a computer.
- ▶ At least some portion of the reproductive health education should be mandatory so that all soldiers receive it uniformly, and no one is singled out.
- ▶ Experienced, female soldiers can be used to provide information and share experiences.
- ▶ Multiple channels should be used to effectively educate women about their reproductive health.
- ▶ Any education program should be available in the barracks if it is to be used regularly.
- ▶ Regular education is important to ensure retention of information, allow users to explore different areas, and to provide updated information.

Conclusions

Most focus group participants at this installation agreed that there is an unmet need for basic reproductive health education for enlisted women. Education on preventive health is especially critical because of the high value placed on fitness in the military. Participants in the focus groups of enlisted women and their military health care providers agreed that there are several gaps in the education soldiers receive on STD and pregnancy prevention as well as ways to maintain hygiene and prevent genitourinary infections in the field.

Education is needed to prevent pregnancies that interfere with the mission of all soldiers. However, because there are so many incentives and other factors that may put enlisted women at greater risk for mistimed pregnancies, effective pregnancy-prevention education may be difficult. Focus group participants agreed that enlisted women need greater access to birth control at all times (including during deployment), in order to prevent unintended pregnancy. Participants also indicated that education, perhaps through peers who have experienced unintended pregnancy in the military, might help enlisted women prevent unintended pregnancy. However, both clinicians and enlisted women appeared to accept pregnancy among enlisted females as a given at present. All groups mentioned a need for information and support to help enlisted women deal effectively with pregnancy in the military. Many enlisted women wanted information that would help a woman care for her health, her child's health, and still perform her duties as a soldier.

Basic education on contraception is also needed to help enlisted women prevent unwanted pregnancies. Contraception is widely available in the military, but little contraceptive information is available. Enlisted women need to know about their contraceptive options, the risks and benefits of each option, how to obtain the contraception they need, and how to deal with the potential side effects of contraceptives. Information on viable contraceptive options in the field is especially needed.

Although the enlisted women participants were very concerned about pregnancy, they tended to talk more about issues of basic hygiene and the conditions women experience as a result of poor hygiene. Participants in the focus groups of enlisted women may have been most interested in the topics of hygiene and genitourinary infections because these are issues that almost all enlisted women deal with on a regular basis. According to focus group participants, enlisted women are frequently unable to practice good hygiene in the field. Working and living in close quarters with males decreases women's access to the resources they need to maintain good feminine hygiene. As a result, enlisted women experience a high rate of genitourinary infections. According to the enlisted women in the focus groups, information on the prevention and treatment of female genitourinary infections in a military environment is not readily available. Enlisted women reportedly need basic information on the type and quantity of supplies needed for female soldiers to protect their genitourinary health, especially in the field. Women also need to know what to do when they experience an infection.

According to focus group participants, genitourinary infections among enlisted women often create more concern than is warranted because enlisted women, their commanders, and male

soldiers fear that these infections may have been sexually transmitted. Sexually transmitted disease (STD) is clearly a major concern in the military and is viewed as relatively common among soldiers. Participants in both clinician and enlisted women focus groups estimated the prevalence of STD infection among enlisted women to range from 40 to 90 percent. Participants in all focus groups were aware of many STDs common among enlisted women. All groups mentioned that chlamydia and herpes were common among enlisted women. Clinicians also believed HPV infection was very common. Clinicians and enlisted women in the focus groups agreed that most enlisted women are not sufficiently concerned about STD infection. In particular, young and inexperienced enlisted women reportedly were likely to engage in high risk sexual behaviors because of their ignorance of the risks and consequences of STDs other than HIV (for which all soldiers are tested). Comments across focus groups also suggested that use of condoms by female soldiers was increasing but still relatively rare, in part because many females believe that having condoms is a sign of sexual promiscuity.

During discussions of all focus group topics (pregnancy, STDs, hygiene and genitourinary infections) participants repeatedly brought up issues of health care delivery in the military. Reports from all focus groups indicated that clinicians frequently conduct Pap tests and screen enlisted women for pregnancy and STD infection. However, focus group participants described several barriers to enlisted women receiving preventive care and treatment. These barriers included:

- ▶ Lack of time on the part of both the health care providers and enlisted women to deliver and obtain health care;
- ▶ Long waits for appointments and in the waiting area;
- ▶ Lack of privacy during sick call;
- ▶ Lack of confidentiality of personal medical information;
- ▶ Lack of continuity in care because a different clinician is seen each time;
- ▶ Poor patient/provider communication (e.g. women are not given a full explanation of what is wrong with them);
- ▶ Pressure from commanders to remain healthy and not seek health care except in emergency situations; and
- ▶ Questioning from commanders about reasons for women seeking health care, particularly for sensitive, reproductive health concerns.

These factors decrease enlisted women's comfort with receiving health care in the military, and may cause some to avoid seeking necessary care or delay obtaining care until they can get an appointment at the hospital or go home and see a known physician.

According to focus group participants, many of the barriers to obtaining health care in the military also interfere with enlisted women obtaining information they need to protect their reproductive health. Participants report that little time is allotted for educating soldiers about their reproductive health. Women generally receive a few classes in basic training and an annual "corporate health" class at the installation. Enlisted women also say that they have little time to seek information on their reproductive health, and the sources available at the installation are primarily at the hospital and not the TMCs. Soldiers generally have few opportunities for

hospital visits, and may be hassled by commanders if they take much time off from duty to obtain care. According to participants in the focus groups, lack of privacy and trust that their personal information will remain confidential keeps many enlisted women from seeking information on their reproductive health from either their clinicians or commanders. They also report that commanders and clinicians are frequently unwilling or unable to provide them with the information they need. Additionally, because these enlisted women do not have a regular health care provider, they are not likely to receive or be referred for individual counseling on their reproductive health unless they take the initiative to ask for it. Focus group participants reported that most enlisted women do not take the initiative to obtain accurate information on their reproductive health.

Overall, findings from these focus groups indicated that enlisted women would benefit from a computer-based reproductive health education intervention if it could be made accessible to all soldiers in a private setting. Comments from participants suggested that this type of health education intervention would be useful to soldiers if the materials were adaptable to the user, and at least a portion of the education was mandatory. Findings from the focus groups also indicated that enlisted women need a mechanism for obtaining reproductive health information that is current and tailored to their installation and culture. These findings suggest the need for an educational intervention in which the information can be: (1) tailored to the user's input, and (2) updated regularly.

Recommendations

Below is a detailed list of recommendations for developing a interactive, computer-based materials to educate enlisted women about their reproductive health. Recommendations were either offered by focus group participants or developed based on comments made by focus group participants. The first set of recommendations deals with content for the intervention. The second set of recommendations deals with the delivery of the intervention. This section concludes with a list of questions that should addressed by the intervention.

Content

General format

- ▶ All material should be interesting, relevant, in-depth, and up to date.
- ▶ Include a menu of questions (see "Specific Questions Enlisted Women Need Answered" below.)
- ▶ If possible, the educational intervention should be extended to or adapted for male soldiers and commanders of enlisted women (officers). The behaviors of both of these groups impact the reproductive health of enlisted women and they need to know the repercussions of their actions.
- ▶ It would be useful to include content that can be tailored to the user based on service, age, job, marital status, ethnicity, etc.

- ▶ Army terminology should be used in writing the content.
- ▶ Some good information, videos, and graphics are available in the military which could be included in the CD-ROM. It may be helpful and more efficient to use some materials and information from existing reproductive health programs in the military.
- ▶ Because of the limited access most enlisted personnel have to computers, creating a program that could produce brochures or slides, or be adapted to a videotape format would be useful. Clinicians want something they can use to educate a group of soldiers at one time. Women want something they can take home.

General women's health content

- ▶ Include information on basic female physiology.
- ▶ Teach women the relationship of other health problems to their reproductive health (e.g. smoking to HPV infection, stress to problems such as menstrual irregularity and herpes outbreaks, etc.)
- ▶ Include basic education on recognizing and distinguishing symptoms of UTIs, vaginal infections, STDs, menstrual disorders, and pregnancy; and on how to react to those symptoms.
- ▶ Include stories or testimonials on the real consequences and costs of reproductive health problems. Participants indicated that real experiences of enlisted women would have a greater impact.
- ▶ Instruct women on how to ask about diagnoses and treatment options.
- ▶ Provide information on the contraceptives, other medications, and toxic substances women may be exposed to in the military. Include detailed information on the possible effects of these chemicals on their reproductive as well as overall health.
- ▶ Explain what is done during a pelvic exam and Pap test and why.
- ▶ Explain the need for breast exams and how to do a self exam.
- ▶ Include a directory of information resources for enlisted women to find out how to deal with their unique reproductive health concerns at their installation.
- ▶ Deal with concerns about confidentiality of treatment (e.g. alternatives, advice from experienced female soldiers, your rights in the Army)
- ▶ Provide practical suggestions for preventing STDs and pregnancy that go beyond contraception (e.g. communication).
- ▶ Provide information to help women prepare for deployment. Predeployment information may cover topics such as choosing a viable contraceptive, suggested medications for various chronic conditions women may have, possible side effects of medications and how to deal with them, basic hygiene items needed, and how much.
- ▶ Provide advice on staying healthy in the field. Topics to cover may include how to stay hydrated, recommended elimination procedures, and how to treat specific women's health problems in the field. Also include information on recommend items, medications, etc., to use in the field, and how much women should bring for different types of deployment. Some items that should be mentioned are contraceptives and herpes medication.

Specific pregnancy and contraception content

- ▶ Include a section on birth control alternatives, their effectiveness, risks, benefits, etc.
- ▶ Include instruction on how to recognize symptoms of an abnormal pregnancy, and what a

woman should do if she may be pregnant and is experiencing specific symptoms.

- ▶ Include “real-life” stories of women who have experienced pregnancy in the military with an emphasis on costs (e.g. women experiencing pregnancy complications, weight gain, etc.)
- ▶ Include information on proper care and precautions for active duty women during pregnancy.
- ▶ Include information on breastfeeding as a soldier.
- ▶ Although the military cannot or does not provide information on certain alternatives for dealing with an unintended pregnancy, such as abortion or adoption, it may be useful to direct enlisted women to social service and nonprofit organizations that may offer them more information about their options with an unwanted pregnancy.

Hygiene and genitourinary infections

- ▶ Provide tips (perhaps from experienced soldiers, health care providers, and commanders) for maintaining hygiene on base and in the field. Peer information sources could be drawn upon more effectively.
- ▶ Include an activity that will help women determine what to bring into the field and how much for each type of deployment.

Sexually transmitted diseases

- ▶ Emphasize the importance of using condoms alone or with other contraception to prevent STD infection.
- ▶ Let women know that they may receive a lot of attention from males because females are the minority in the military. Teach them strategies for handling this attention and avoiding risky sexual behavior.
- ▶ Also include prevalence data (perhaps from the local clinic on base) to give users the sense that infection is common.
- ▶ Include information on the symptoms and possible health consequences of the various STDs.
- ▶ Use visuals to emphasize the severity of STD infection.

Delivery

Who?

- ▶ Enlisted women may be more responsive to reproductive health information delivered by a female peer. Women also want information from medical professionals with experience dealing with military women’s health issues.

When?

- ▶ Educate soldiers as early as possible. Provide reproductive health education during basic training or before.
- ▶ Reproductive self-care and prevention education should be provided at several points by a team of trained individuals who work closely with enlisted women. This team may include specialists at the hospital, experienced female soldiers, commanders, etc. A

consistent but continuously updated curriculum should be developed, and delivery should be on-going and regular.

- ▶ One way to deal with women's concerns about privacy and time issues in using this intervention is to make it part of an annual training or briefing, so that everyone has to use it.

Where?

- ▶ Education must be delivered in a manner that ensures confidentiality and privacy while being available to all enlisted personnel.
- ▶ Many enlisted personnel do not have regular access to a computer. Therefore, a computer should either be set up at the clinic, in the barracks, or even carried into the field. Computers are already available at the education center on base, where this intervention could also be made available.

How (what will it take to deliver)?

- ▶ Education and support of the chain of command is critical to implementing any reproductive health education intervention for enlisted women.
- ▶ Make the use of the intervention mandatory to ensure that soldiers use it and no one is "singled out."

Specific Questions Enlisted Women Need Answered

About general women's health

- ▶ What reproductive health problems might I experience in the military (e.g. field exercises, deployment, basic training)?
- ▶ How can I deal with these health problems in the various settings?
- ▶ What are my options if I have reproductive health problems in the field (e.g. vaginal infections, UTIs)?
- ▶ What chemicals may affect my reproductive health? How?
- ▶ What happens during a pelvic exam?
- ▶ Why am I getting a Pap smear?
- ▶ What is a Pap smear?
- ▶ What is normal menstruation?
- ▶ What are the risk factors for cervical cancer?

About pregnancy and contraception

- ▶ How do I get pregnant?
- ▶ What regulations may impact my pregnancy?
- ▶ How do I prepare for a normal pregnancy?
- ▶ How can I ensure that I have a healthy baby while in the military?
- ▶ What impact could military service have on my pregnancy/baby?
- ▶ What chemicals may affect the health of my baby during pregnancy? How?
- ▶ What causes infertility?
- ▶ What are my contraceptive options?

- ▶ What can I use in the field for birth control?

About hygiene and genitourinary infections

- ▶ How can I practice good hygiene? In the field? During deployment?
- ▶ What do I need to take into the field to maintain hygiene and genitourinary health?
- ▶ How do I get the items I need in the field to maintain good hygiene and health?
- ▶ What causes them genitourinary infections?
- ▶ How can they be treated?
- ▶ What makes them worse?
- ▶ How can genitourinary infections be treated in the field?

About sexually transmitted diseases (STDs)

- ▶ What STDs can women get?
- ▶ How do women get these STDs?
- ▶ How do I know I have one of these STDs?
- ▶ What are the consequences of having each type of STD infection?
- ▶ How likely am I to get or have an STD (based on my sexual practices)?
- ▶ How do I know if my partner has an STD?
- ▶ How can I protect myself from STD infection?
- ▶ What should I do if I think I might have been infected?
- ▶ How can STDs be treated?

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Focus Group Report for Fort Lewis

Appendices

Appendix A: Enlisted Women's Screener

Participant Screeners for Focus Groups on Enlisted Army Women's Reproductive Health

Recruiting Goals

- ▶ The participants shall be enlisted Army women.
- ▶ Twelve married, enlisted Army women will be recruited for the first group. (The final group will include 8 to 10 participants but over recruiting is necessary to allow for attrition).
- ▶ Twelve single, enlisted Army women will be recruited for the second group. (The final group will include 8 to 10 participants but over recruiting is necessary to allow for attrition).
- ▶ Each group shall have a mix of race/ethnicities reflective of the Army enlisted female population. In order to be representative of the female enlisted Army population, approximately half of the participants in each group should be African American. At least a third of the participants should be white. Ideally, at least one Hispanic women would participate in each focus group as well.
- ▶ Participants shall not have participated in a focus group or other qualitative research study during the past year (telephone studies are acceptable).
- ▶ Officers will be excluded.

Scheduling

The schedule for the focus groups follows:

September, 1998

Site: _____

10 participants each group.

- ▶ Participants will be paid \$25 for their participation, provided they are off-duty at the time of the focus group.
- ▶ Refreshments will be offered to participants.
- ▶ The identity of the participants will remain confidential.

Appendix B: Clinician's Screener

Clinical Participant Screeners for Focus Groups on Enlisted Women's Reproductive Health

Recruiting Goals

- ▶ The participants shall be physicians, nurse practitioners, and physician assistants who provide reproductive health care services for enlisted Army women.
- ▶ Participants shall not have participated in a focus group or other qualitative research study during the past year (telephone studies are acceptable).

Scheduling

The schedule for the focus groups follows:

September, 1998

Site: _____

10 participants each group.

- ▶ Participants will be paid \$25 for their participation, provided they are off-duty at the time of the focus group.
- ▶ Refreshments will be offered to participants.
- ▶ The identity of the participants will remain confidential.

Appendix C: Moderator's guide for focus groups with enlisted women

Focus Group Questions: Enlisted Army Women

Introduction:

Hello, my name is _____. Thank you for participating in this focus group today. A focus group is a group discussion where several participants explore a topic. I will be moderating this focus group, and _____ (name of recorder) will be taking notes.

We are here from Macro International, which has been contracted by the U.S. Army to conduct a 4-year research project to investigate enlisted women's needs for health education on basic gynecological and reproductive health issues. We are conducting surveys and focus groups like this one to determine the needs of enlisted women. Based on that information, we plan to develop and test educational materials with enlisted Army and Navy women. This study is important because the number of women in the U.S. Armed Forces is increasing, and statistics show that the rate of unintended pregnancies, sexually transmitted diseases (STDs), and common preventable gynecological conditions, such as vaginitis, among enlisted women deserve attention.

The purpose of this focus group is to gather information which will help in designing the educational materials. This information is being gathered from enlisted Army and Navy women at four bases in the United States. During the group, we will be discussing reproductive health issues, military health care, and health education in the military. I will ask you about your perceptions of the attitudes, behaviors, and preferences of enlisted Army women in general. At no time will you be asked about your own behavior. The focus group should take about an hour and a half.

This study is anonymous, so your name or any other identifying information will not be included in the report. All information will be kept confidential. Your participation is voluntary, and you may decide to stop at any time. If you decide to stop you will not be penalized in any way. If you have any questions or don't understand what I am asking at any time, please let me know and I will explain further.

The most important thing is to be straightforward and honest. We are interested in your opinions, and different opinions are welcomed. There are no right or wrong answers. We understand that talking about reproductive and gynecological issues can be uncomfortable, but please say whatever you are thinking.

I would just like to ask that you speak one at a time and that everyone participate. If you have any questions about this process, I will answer them now.

(tell them about tape recorder and/or note taker. Give them consent form to read and sign, and explain honorarium. Have them put name [first name or nick name] on a sign to place in front of them.)

I'd like to start the discussion with a round of introductions. Let's go around the table. I'd like each of you to give your name, say where you are from, and how long you've been in the Army.

GENERAL HEALTH

How important is health to women? How do you think being an enlisted Army soldier affects feelings about health?

What do Army women worry about most when it comes to their health?

- What should they worry about?
- What about their reproductive health? (*Paraphrase to explain "reproductive" if needed.*)
Go to section below that was mentioned first or most often by participants.

HEALTH CARE

How do enlisted women feel about health care in the Army?

Where do most enlisted Army women get gynecological care?

- Why? (*If respondent says private physician, probe Why not military?*)

What types of questions do Army women ask their health care providers?

- What should they ask?
- Why don't they ask these questions?
- Are the questions that Army women ask military health care providers different from those they ask civilian health care providers?

What are the reasons women do not to get an annual Pap test?

- What would make it easier?

What types of health services and/or counseling do Army women typically get before deployment?

- What services should they get?

How common is it for women to get a physical before deployment? How about a Pap and pelvic exam?

- When is it important for a woman to get a predeployment gynecological exam?
- What are reasons women do not get this exam before deployment?

VAGINAL INFECTIONS/HYGIENE

What do most Army women do when they think they have a vaginal infection?

What do most Army women do to prevent vaginal infections?

- Are there any reasons that Army women may have trouble preventing vaginal infections

What would help Army women to prevent vaginal infections? What would help them get

appropriate treatment for vaginal infections?

What do Army women do to prevent infections when they are in the field?

- What do they do when they think they have a vaginal infection in the field?
- What medical and hygiene supplies do Army women pack when they are deployed?

PREGNANCY

How common do you think unintentional pregnancy is among enlisted Army women?

How much do you think Army women worry about getting pregnant?

- Do you think they should be more concerned? Why or why not?
- What happens to enlisted women who get pregnant in the Army?
- Why do you think some enlisted women get pregnant in the Army?

What should an enlisted woman do if she thinks she might be pregnant?

CONTRACEPTION

What do enlisted women need to know to better prevent unintentional pregnancy?

What are the ways that Army women prevent pregnancy? How about in the field?

- What are the types of contraceptives most often used by Army women? Why?
- What types of contraception are used in the field? *(If different from general types, probe to find out why.)*

How hard is it to get contraception when you need it in the Army?

- What makes it hard to get?
- What could make it easier?

How hard is it to get contraception in the field?

- What makes it hard to get?
- What could make it easier?

What do enlisted women need to know to use contraception consistently and effectively?

SEXUALLY TRANSMITTED DISEASES

What STDs do you think are most common among women?

Repeat with each STD indicated:

- How much do you think Army women worry about getting _____?
- Do you think they should be more concerned? Why or why not?
- What are some of the things that can happen to a woman who gets this STD?

What percent of Army women do you think have STDs?

- A 1995 survey says that ____ % of Army women reported having an STD last year.
- How do you feel about this information? Does it seem high or low to you? Why?

What are some ways that women protect themselves from STDs?

- Why don't some women do these things?

What do enlisted women need to know to better protect themselves from STDs?

CONDOM USAGE

What do you think most sexually active women in the Army think about using condoms?

- How about their partners?
- What do their health care providers tell them?
- What other messages do they get about condom use?

When should a woman use a condom?

- Does it depend on other contraception she is using? Does it depend on her partner? Something else?

What makes it hard to use condoms every time?

- What would make it easier?

SEXUAL COMMUNICATION

We know that people who are able to talk with their sexual partners about sex and condoms are more likely to practice safe sex.

- Why do you think this is so?

What makes talking about these issues with partners difficult for women? Why?

- What would make it easier?

What do you think are the costs, or risks, of talking about sex with a partner (e.g., condoms, sexual history)? What would be the benefits?

HEALTH EDUCATION

What kinds of health education are available in the Army? How about reproductive health or women's health?

- How helpful was it? Why?

What reproductive health topics do you think enlisted Army women **need** to know more about?

- Why?
- Is this different from what they **want** to know more about?

How can enlisted Army women find out about these topics now?

- Where do they go? Who do they usually talk to?

We want to teach enlisted women about prevention and self-care.

Imagine that you were put in charge of getting information on reproductive health to all women at your base. What do you think would be the best way to get this information to enlisted women?

- What would be the most effective way to present it?
- What would help them learn more about self-care and prevention?

What could the Army do to get health information to all enlisted women in the Army?

If we made a computer program about prevention and self care, what are some things that would make enlisted women interested in using it?

Have you ever used a computer to learn about health (e.g. via the Internet, in classrooms, etc.?)

Would you recommend it to other women? Why or why not?

- What would you change?

What skills would women like yourselves like to see demonstrated on a computer program?

Give a couple of examples: How to use condoms correctly? How to talk to a partner about sexual matters? How to practice proper hygiene in the field?

What kinds of scenarios, or stories, would enlisted Army women like to see in this program?

- What would be realistic?

Where would enlisted Army women want to use a program like this?

- *Probe if unresponsive: Health center/clinic? Computer laboratory? Kiosk? Other place?*

What other materials or education would help enlisted women improve their self-care and preventive behaviors?

If we make a pocket field guide that summarizes prevention and self-care information, what would be helpful to include in it? What should it look like?

How could the Army ensure that every active duty women received a pocket field guide?

Appendix D: Moderator's guide for focus groups with Army health care providers

Focus Group Questions: Military Clinicians Serving Army Women

Introduction:

Hello, my name is _____. Thank you for participating in this focus group today. A focus group is a group discussion where several participants explore a topic. I will be moderating this focus group, and _____ (name of recorder) will be taking notes.

We are here from Macro International, which has been contracted by the U.S. Army to conduct a 4-year research project to investigate enlisted women's needs for health education on basic gynecological and reproductive health issues. We are conducting surveys and focus groups like this one to determine the needs of enlisted women. Based on that information, we plan to develop and test educational materials with enlisted Army and Army women. This study is important because the number of women in the U.S. Armed Forces is increasing, and statistics show that the rate of unintended pregnancies, sexually transmitted diseases (STDs), and common preventable gynecological conditions, such as vaginitis, among enlisted women deserve attention.

The purpose of this focus group is to gather information which will help in designing the educational materials. This information is being gathered from military clinicians at four bases in the United States. During the group, we will be discussing health and issues of concern to enlisted Army women including reproductive health issues, military health care, and health education in the military. I will asking you about your perceptions of the attitudes, behaviors, and preferences of enlisted Army women and their clinicians in general. At no time will you be asked about your own behavior. The focus group should take about an hour and a half.

This study is anonymous, so your name or any other identifying information will not be included in the report. All information will be kept confidential. Your participation is voluntary, and you may decide to stop at any time. If you decide to stop you will not be penalized in any way. If you have any questions or don't understand what I am asking at any time, please let me know and I will explain further.

The most important thing is to be straightforward and honest. We are interested in your opinions, and different opinions are welcomed. There are no right or wrong answers. We understand that talking about reproductive and gynecological issues can be uncomfortable, but please say whatever you are thinking.

I would just like to ask that you speak one at a time and that everyone participate. If you have any questions about this process, I will answer them now.

(tell them about tape recorder and/or note taker. Give them consent form to read and sign, and explain honorarium. Have them put name on a sign to place in front of them.)

I'd like to start the discussion with a round of introductions. Let's go around the table. I'd like each of you to give your name, say where you are from, and how long you've been in the Army.

GENERAL HEALTH

How important do you think health is to enlisted women in the Army? Why do you think this?
How do you think being an enlisted Army soldier affects enlisted women's feelings about health?

What do Army women worry about most when it comes to their health?

- What should they worry more about?
- What about their reproductive health?

HEALTH CARE

In general, how do you think enlisted women feel about health care in the Army?

What do Army women have a right to expect from their health care providers?

How comfortable do you think most women feel talking to their health care provider? (*Give examples: talking about STDs, condom use, sexual dysfunction.*)

- What makes them more or less comfortable?

How comfortable are health care providers in talking about these matters with patients?

What types of questions do Army women ask their health care providers?

- What should they ask?

What types of questions do health care providers ask enlisted women about their reproductive health (i.e., sexual practices history)?

- What should they ask?

What types of reproductive health screening and/or counseling are typically provided to enlisted Army women?

- What should be provided (that isn't currently)?

What types of health services and/or counseling do Army women typically get before deployment?

- What about pregnancy testing?

How common is it for women to get a physical before deployment? How about a Pap and pelvic exam?

- When is it important for a woman to get a predeployment gynecological exam?
- What are reasons women do not get this exam before deployment?

What types of health services and/or counseling do Army women typically receive in the field?

- What health services or counseling should they receive in the field?

VAGINAL INFECTIONS/HYGIENE

How common do you think vaginal infections are among enlisted women in the Army? How do you think being a soldier in the Army affects enlisted women's risk for vaginal infection?

What do most Army women do to prevent vaginal infections?

- How about in the field?

What medical and hygiene supplies do Army women pack when they are deployed?

- What should they pack?

How should health care providers prepare for the hygiene needs of enlisted women in the field?

- What supplies should health care providers make sure are available to enlisted women?

What would help them get appropriate treatment for vaginal infections?

- Again, what do they do differently in the field?

PREGNANCY

How common is unintentional pregnancy among enlisted Army women? How do you think this compares to civilian women?

How much do you think Army women worry about getting pregnant?

- Do you think they should be more concerned? Why or why not? (*Prompt: What happens to enlisted women who get pregnant in the Army?*)
- Why do you think some enlisted women get pregnant in the Army?

What would help Army women avoid unintended pregnancies?

- What can their health care providers do to help?

CONTRACEPTION

What are the types of contraceptives most often used by Army women? Why?

What type of counseling/education about contraception do health care providers give enlisted women? When?

- How could they do this more effectively?

How hard is it for enlisted to get contraception when they you need it?

- What makes it hard to get? What could make it easier?

What do enlisted women need to know to use contraception consistently and effectively?

- What else do enlisted women need to know to better prevent unintentional pregnancy?

How do most Army women prevent pregnancy when they are in the field?

How hard is it for enlisted women to get contraception in the field?

- What makes it hard to get? What could make it easier?

What should health care providers do to address the contraceptive needs of enlisted women in the field?

SEXUALLY TRANSMITTED DISEASES/CONDOM USE

Let's talk a little about STDs. What STDs do you think are most common among Army women?

How much do you think Army women worry about STDs?

- Do you think they should be more concerned? Why or why not?

What percent of Army women do you think have STDs?

- A 1995 survey says that ___ % of Army women reported having an STD last year.
- How do you feel about this information? Does it seem high or low to you? Why?

What do enlisted women need to know to better protect themselves from STDs?

- What about condoms? What do they need to know?
- What do they think about using condoms? What about their partners?

Should health care providers be responsible for giving STD prevention information to enlisted women?

- How should health care providers promote condom use among enlisted women?

HEALTH EDUCATION

Let's talk more about health education in the Army. What kinds of health education are available? How about reproductive health or women's health?

- How adequate is the health education that enlisted women receive? Why do you think this?

What reproductive health topics do you think enlisted Army women **need** to know more about?

- Why? Is this different from what they **want** to know more about?

How can Army women find out about these topics now? How do they?

- Where do they go? Who do they usually talk to?

We are developing a reproductive health intervention to teach enlisted women about prevention and self-care.

Imagine that you were put in charge of getting information on reproductive health to all women at your base. What do you think would be the best way to do this?

- What would be the most effective way to present it?
- What would help them learn more about self-care and prevention? What content?

What could the Army do to get health information to all enlisted women in the Army?

If we made a computer program about prevention and self care, what are some things that would make enlisted women interested in using it?

- What would it look like?

What skills would enlisted women benefit from seeing demonstrated on a computer program?

Give a couple of examples: How to use condoms correctly? How to talk to a partner about sexual matters? How to practice proper hygiene in the field?

What kinds of dramatic stories do you think would be useful for enlisted Army women to see in this program? What are some realistic scenarios?

Where would enlisted Army women use a program like this?

Have you ever used a computer to teach about health (e.g. via the Internet, in classrooms, etc.)?

Would you recommend it to other clinicians?

- Why or why not?

What are some things that would make clinicians interested in using computer-based education with patients? Does being a military clinician affect the willingness or interest in using computer materials with patients?

What other materials or education would help enlisted women improve their self-care and preventive behaviors?

If we make a pocket field guide that summarizes prevention and self-care information, what would be helpful to include in it? What should it look like?

How could the Army ensure that every active duty women received a pocket field guide?

APPENDIX B

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Focus Group Report for Naval Station San Diego

October 10, 1998

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Background

The Department of Defense (DoD) contracted with Macro International Inc. to conduct a study of enlisted women's needs for basic gynecological and reproductive health education, from the perspective of military health care providers and enlisted women themselves. Based on the results of this needs assessment, a culturally sensitive, multimedia CD-ROM and accompanying materials will be developed. This intervention will then be tested in Army and Navy medical clinics in conjunction with annual Pap test screening. As part of the needs assessment, a series of focus groups were being conducted to ensure that attitudes and beliefs related to reproductive health behavior of enlisted women are examined. A total of 8 groups with enlisted women, 4 groups with physicians, and 4 groups with nurse practitioners, physician assistants, and medical corps personnel were conducted at two Army and two Navy installations. At each installation, focus groups were conducted with married enlisted women; single enlisted women; military physicians; and other military providers of health care for enlisted women. This report discusses the findings of focus groups conducted with enlisted Navy women and their health care providers at San Diego, California.

The purposes of all focus groups conducted for this project are:

- 1) To assess the most pressing reproductive and gynecological self-care education needs of enlisted women on base and in the field or at sea; and
- 2) To assess the range of current health education efforts for enlisted women.

Strengths and Limitations of Qualitative Research

Focus groups were chosen as one research method to be used in determining the reproductive education needs of enlisted Army and Navy women. Focus group research is qualitative in nature, so the results are not quantifiable. Qualitative research provides information for clarifying theories, creating hypotheses, and giving direction for future research. The results presented in this report are an objective observation of attitudes, preferences, and comments of those participating in the focus groups. Although focus group participants were drawn from the target populations of enlisted women and their health care providers, they were not chosen on any statistical basis. Therefore, no statistical inferences should be drawn from the results of the focus groups. Findings also cannot be generalized to the target population.

Methodology

Macro International conducted one focus group, consisting of married and single enlisted women, in a meeting facility near the OB-GYN clinic at the Naval Training Center in San Diego, California on October 10, 1998. The focus group of enlisted women was not held during duty hours. Therefore, each participant in this focus group received \$25 as compensation her time and

expenses involved in voluntarily attending the focus group.

All participants in the focus group of enlisted women were recruited by LCDR Mark Stephens, who is part of the Primary Care Group at the U.S. Navy Medical Center in San Diego. A screener was developed at Macro International Inc. to be used as a guide by Dr. Stephens for selecting focus group participants.

A moderator's guide was developed at Macro International Inc. to answer the general questions listed in the background section of this report and to obtain other feedback that may be useful in developing an educational CD-ROM to help enlisted women care for their reproductive health. The moderator's guide was approved by the internal review board at Macro, the U.S. Army Medical Research Acquisition Activity at Fort Detrick, Maryland, and the Quality Control Department at San Diego Naval Medical Center. All focus groups were led by a trained moderator from Macro International Inc. A project manager, who is also an experienced focus group moderator from Macro International Inc., observed the focus groups and took notes. Both focus group facilitators from Macro were female. All focus groups were audiotaped.

General Findings

Below are the general findings of the focus group conducted at San Diego Naval Station for the project, "CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women." The findings are organized under the general categories of topics to be covered in the moderators' guides (see Appendices C and D).

General Health

Fitness is highly valued in the military. Enlisted women reported that fitness is important to women in the Navy, but many women are "lazy" when it comes to caring for their health. Navy women reportedly worry about their health, but their work environment often does not allow them sufficient time to obtain health care.

Enlisted women reported that they worry most about their weight because of physical training (PT) requirements. Some Navy women gain enough weight that they do not make the PT requirements. As with their health, participants in the enlisted women's focus group reported that Navy women worry about weight but often do not do anything to control their weight.

Other health concerns reported by enlisted women were breast, ovarian, and cervical cancer. Cervical cancer, in particular, was perceived as an illness that was commonly diagnosed among Navy women. Some participants in the enlisted women's focus group mentioned the possibility that cervical cancer may be over diagnosed by clinicians at Navy medical clinics.

Pregnancy

Enlisted women in the focus group also reported that they worried about getting pregnant, perhaps because many of these participants had experienced a recent pregnancy while on active duty. According to these participants, unintended pregnancy is very common among Navy women because many do not worry about pregnancy until it occurs. Many women enter the Navy right out of high school and may indulge in irresponsible sexual experimentation because of their youth, inexperience, and new freedom from parental and other social controls found at home. Some women may also use sexual relations or even pregnancy as a way of dealing with the stress they experience in the Navy. Participants acknowledged that some women get pregnant in order to fill some emotional need. Enlisted women in the focus group indicated that Navy women are no longer likely to get pregnant to get out of the Navy, or out of sea duty. Changes in regulations have made it more difficult to obtain both a discharge from the Navy and a release from sea duty because of pregnancy.

Despite the more stringent regulations that disallow pregnant women an automatic release from sea duty, many females reportedly continue to get pregnant aboard ship. Many of these women eventually get reassigned to specific commands on shore duty. Participants in the focus group of enlisted women did not describe shore duty as a desirable outcome of pregnancy. Participants indicated that they resented getting "put behind a desk" because of pregnancy. An example was even given of an enlisted woman who had tried to hide her pregnancy from her commander so that she would not be transferred to a desk job.

Overall, the group of enlisted women described pregnancy in the Navy as an unpleasant experience. Duty reassignments are common for women who get pregnant in the Navy, especially those who regularly serve aboard ship. Comments from enlisted women participating in the focus group suggest that shore duty and desk jobs that pregnant Navy women are usually assigned have a negative stigma attached to them. These enlisted women believed that many pregnant women in the Navy were assigned desk jobs unnecessarily. Participants believed that many Navy women can continue to carry out their usual duties during pregnancy.

Pregnant women in the Navy reportedly encounter a number of other difficulties. Key among these difficulties is having "to explain to men about what is involved in childbirth, breastfeeding," and other women's health concerns. According to enlisted women participating in the focus group, many problems faced by pregnant women in the Navy stem from a lack of knowledge among males in the Navy. Lack of knowledge among commanders may lead to women being removed from duties they could continue to perform throughout most of a low-risk pregnancy. Women may also have to explain health concerns related to pregnancy to male peers and commanders. In the process, some Navy women may be forced to reveal details of their pregnancy that can affect the way they are treated. An example was given of a pregnant woman who had to announce her due date to her command. Sailors working with her became overly concerned with the fact that she might go into labor as her due date approached.

Enlisted women agreed that pregnancy was easier for married than for single women in the Navy. Married women mentioned single friends who had become pregnant in the Navy and

recognized that these women had to endure many difficulties alone.

Participants added that many enlisted women needed to know the real costs associated with a mistimed pregnancy during military service. Young, single women need to be more concerned about the struggle of raising children. Pregnancy at sea is problematic, particularly if the pregnancy requires an evacuation. Evacuation of any sailors can dramatically affect the troop strength of a vessel. Evacuation of pregnant women is therefore no longer automatic, and women in the early stages of pregnancy may be forced to complete their sea duty. However, comments from enlisted women in the focus group suggest that women who become pregnant prior to deployment may be reassigned to shore duty.

Contraception

According to participants in the enlisted women's focus group, women frequently cannot obtain or do not have room to store sufficient contraception for a long deployment at sea. However, some participants mentioned that additional supplies can sometimes be kept at the work center. Additionally, some women in this group knew that birth control pills and Depo Provera shots can be obtained at the ship "store" or clinic. However, they were uncertain as to whether condoms could be obtained aboard ship. These participants stated that condoms may be available aboard ship, but their availability is not advertised to females. The enlisted women agreed that the availability of condoms aboard ship should be advertised to both males and females.

Enlisted women in the focus group reported that birth control pills were the most commonly used contraceptive for Navy women. Depo Provera shots were also commonly administered to Navy women. Birth control pills, Depo Provera shots, and condoms are reportedly easy to obtain in the Navy. According to participants, enlisted women in some commands are even "forced" to take birth control pills. Enlisted women may also receive pressure to obtain Depo Provera shots. An example was given of a pregnant woman in the Navy who was scheduled to receive a Depo Provera shot shortly after delivery. Although condoms are readily available and are distributed free of cost at some Navy clinics, comments do not suggest that women are encouraged to use condoms. Overall, comments from enlisted women suggested that there is a strong push within the Navy to ensure that women stay on some form of contraception. However, little information may be provided to the women themselves regarding their contraceptive options and how to use them.

Some participants in the enlisted women's focus group indicated that Navy women may sometimes have difficulty avoiding lapses in their contraceptive use due to lack of time available to obtain contraceptives. Many Navy women only see their health care provider during the annual pelvic exam because of the difficulty obtaining release from duty for any type of health care. If the health care provider does not prescribe one year's worth of birth control pills at that time, a woman may run out before her next visit to a health care provider. According to participants in the enlisted women's focus group, some Navy health care providers prescribe only a three or six month supply of oral contraceptives.

Short-term supplies of contraceptives prescribed by health care providers in the Navy may also be problematic for women who are deployed. Although some contraceptives are available aboard ship, women may not make the requisite visit to the independent duty corpsman (IDC) to renew their contraceptive supply. Although only one woman in the focus group of enlisted women had served aboard ship, participants in this group knew other Navy women who had sea duty. These participants reported that Navy women may avoid seeing the IDC aboard ship, in general, because of lack of time and the impersonal care they receive from the IDC.

Some participants in the group of enlisted women expressed some concern about the long and short-term health effects of hormonal contraception. Some feared that extended use of this type of contraception might increase their risk of cancer. Some also reported that side effects were common because health care providers could not easily determine what type of pill might work best for a particular woman.

Genitourinary Infections/Hygiene

Participants in the focus groups of enlisted women appeared most concerned about issues related to hygiene and the prevention and treatment of common genitourinary infections. Both enlisted women and their health care providers reported that vaginal infections and urinary tract infections (UTIs) are common among enlisted women. The majority of these infections were attributed to poor hygiene practices, particularly in the field.

Hygiene Issues for Enlisted Women

Enlisted women acknowledged that conditions at sea make proper female hygiene practices difficult if not impossible. Opportunities to wash and change clothes are limited aboard ship or submarine, since fresh water is frequently in limited supply and all of the sailor's possessions must be stored in one relatively small locker, regardless of the length of sea duty. On submarines no water is available for washing, which reportedly poses great difficulties for enlisted women when they are menstruating. Women often bring bottled water and wet wipes aboard ship or submarine. However, the quantity they can bring aboard generally lasts only a couple of weeks. Similarly, supplies of sanitary pads or tampons women can bring aboard may be limited by storage space. However, participants in the enlisted women's group reported that additional storage space can sometimes be obtained aboard ship, and sanitary pads are sold at the ship store, on most ships. Women also have difficulty practicing appropriate hygiene during regular field exercises, due to limitations on time and supplies. Women at sea and in the field may not be allowed sufficient time for cleaning and basic hygiene practices. The amount of time allowed for hygiene practices varies widely and depends on the particular work center.

Sexually Transmitted Diseases (STDs)

Enlisted women participating in the focus group said they had no idea how many in the Navy in get an STD, but indicated that the percentage was likely to be higher among singles. However,

all participants in this group indicated that the 28 percent STD infection rate found among Navy women in the *1995 DoD Survey of Health Related Behaviors Among Military Personnel* seemed high.

Participants in the enlisted women's focus group generally agreed that most Navy women do not worry much about STDs unless they know someone who had one. However, they recognized that many people may know someone who has had an STD and not be aware of it, since the topic is too personal for many people to discuss. An example was given of a Navy woman who was infected with an STD by a man who knew he was infected yet did not tell her.

Participants in the enlisted women's focus group named chlamydia and herpes as the most common STDs among Navy women. Human papillomvirus (HPV) was also mentioned. Not all of the participants had heard of HPV. Comments by participants further suggested that Navy women may be unclear on the health consequences of HPV infection. For example, a case was described of a woman with HPV who believed that she could not get pregnant.

Overall, enlisted women in the focus group appeared concerned about STD infection and had a moderate level of knowledge about STDs. Most participants in the focus group of enlisted women agreed that women should be concerned about STDs in the military, particularly since "cheating" (multiple partners) is common.

Condoms

According to participants, condoms are available and distributed free of charge at most Navy clinics in San Diego. However, enlisted women in the focus group said that condom use was not emphasized by medical personnel at the Navy clinics and hospitals they had gone to. Conversely, hormonal birth control was widely publicized and encouraged at these medical facilities.

Participants in the focus group of enlisted women appeared to recognize the need to use condoms to prevent STD infection even when using other forms of birth control. They also agreed that everyone should be using condoms, regardless of marital status, because many men cheat on their wives. Participants told a few stories of Navy men who contracted STDs, including AIDS, and did not tell their wives. They indicated that many women think about using condoms because of all the STDs that are going around. However, participants' comments suggested that many women who know they should use condoms do not take action and use condoms at each sexual encounter. Single women are reportedly more likely to use condoms, but even most single women do not use condoms consistently. Participants stated that women are generally not concerned about condom use, leaving the decision to use this type of protection up to the men. However, participants recognized that many men do not want to use condoms. Enlisted women explained that many women agree to sexual relations with a man who is not using a condom because they believe, at that time, that they will be with this man forever.

Health Care

Barriers to Effective Utilization

Participants in the focus group of enlisted women reported many deterrents to their receiving necessary health care and treatment. These women indicated that it was difficult for sailors to get time off from duty to go to sick call. A case was described in which a Navy woman had a bladder infection but did not have time to get it treated. They indicated that sailors generally go to sick call only when they are truly too sick to perform their duties. When sailors go to sick call, they often have to wait "all day" before getting treated. Waits in the hospital emergency room can also be as much as eight hours. When enlisted personnel see a Navy clinician, they reportedly must "beg" the clinician to approve SAQ (sick and quarters). SAQ allows sailors with health problems time off from duty to rest in their living quarters. Enlisted women who participated in the focus group reported that, in general, only two days of SAQ are approved. Enlisted women also reported that they need to make an appointment not only for preventive care but for sick call as well. Sailors must also obtain clearance from the base clinic to go to the emergency room in the Naval hospital. These participants felt that the Navy's policy regarding sick call and emergency room visits did not make sense, since unexpected, acute illnesses and injuries need to be treated immediately. Some participants in the enlisted women's focus group suggested that it may be preferable for sailors to pay to see a civilian physician during off-duty hours in order to avoid the wait and hassle experienced in Navy medical facilities.

Another concern voiced by the enlisted women in the focus group was the fact that sailors are seen by a different health care provider each time they go to the clinic. Enlisted women indicated that health education and counseling cannot easily be done by clinicians in the Navy because clinicians often do not know the patients they see, or what their needs are.

Provider Practices

Navy women are required to receive an annual pelvic exam and most women reportedly comply. At San Diego, the annual exam includes a Pap test, testing for STDs, and a breast exam. Women are considered "high-risk" (possibly due to infection with other STDs) or who are experiencing certain health problems may also be referred for an AIDS test at this time.

According to enlisted women, health care providers readily prescribe contraceptives at either the request of the patient or her commanders. However, some enlisted women continue to experience difficulty in obtaining contraceptives. For example, some physicians reportedly refuse to prescribe oral contraceptives to women over 35, even when these women are in good health and do not smoke. Younger women may also fail to obtain the contraceptives they need because they do not request them. Young women do not request contraceptives or fail to take them regularly because they do not feel they need them, are afraid of the real or possible health effects of contraceptives, or do not have time to obtain regular prescriptions.

Health Education

In the Military

The general consensus of participants in the enlisted women's focus group was that some reproductive health education is given to women in the Navy, but it is minimal. Enlisted women stated that health education in the military is inadequate, particularly on the topics of hygiene, STDs, and pregnancy prevention. Enlisted women indicated that they would like to receive more education on health issues that immediately affect them, such as hygiene, genitourinary infections, and contraception. These women reported that they more often receive education on less immediate and less common health concerns, such as breast cancer. Some commands provide education on certain types of contraception. Some Navy physicians also provide extensive information on birth control and let women know their options. However, participants indicated that the majority of enlisted women must be very proactive in order to obtain complete and accurate information on contraception.

Most enlisted women had taken some reproductive health classes during basic training, including some classes on STDs. However, participants in the focus group of enlisted women said that they retained little of the information given in the boot camp classes since they were usually too exhausted to absorb it. Information on STDs, pregnancy, and other reproductive health topics is also available at Navy clinics, usually in the form of pamphlets. However, enlisted women in the focus groups indicated that they need more regular and comprehensive education on all of these topics. For example, enlisted women suggested that Navy personnel need more information on asymptomatic STDs, so that STD infection is not automatically attributed to a partner's "cheating."

Health Education Needs in the Military

Audience

Enlisted women in the group felt that reproductive health education should be delivered to the whole command, with no group singled out. Several participants specifically noted that women's reproductive health education should also target males. Males supervise and work with females and therefore need to understand women's unique health issues and how these issues relate to women's performance of their duties. As a result of this education, males in the Navy may be more likely to allow females time to care for their health and less likely to overreact to health conditions common among females, such as pregnancy or menstruation. Reproductive health education for male soldiers should also highlight the risks and consequences enlisted men experience with regard to STD infection and mistimed pregnancy.

Enlisted female participants also felt that education that encouraged males to get tested for STD infection would help prevent STD infection among Navy personnel in general. These women did not believe that most Navy males received an annual exam, either because they tended to worry less about their health and/or because they fear the painful urethra test.

Content

Enlisted women who participated in the focus group emphasized that Navy women need reproductive health education that focuses on prevention. In order to prevent reproductive health problems, these participants indicated that women need to first learn how a woman's body works so that they can distinguish normal from abnormal changes, particularly as they grow older. Enlisted women also indicated that they would like education on how to talk to their health care provider. These women also thought that enlisted women would benefit from education that highlights the importance of the annual exam. Although most enlisted women get an annual exam and Pap test, some do not realize that the Pap is necessary to detect cervical cancer. Participants in the enlisted women's group mentioned other Navy women and friends who had been diagnosed with cervical cancer and expressed particular concern about this disease. Comments from participants in the enlisted women's group suggest that some Navy women who have an abnormal Pap test may assume they have cervical cancer. Enlisted women may benefit from education on the possible meanings of abnormal Pap test results and what further tests and treatments may be necessary.

Enlisted women also indicated that they would like to receive more education on health issues that immediately affect them, such as hygiene and genitourinary infections. Participants in the enlisted women's focus groups specifically indicated that many enlisted women do not recognize the symptoms or know how to treat a simple yeast infection. These women expressed a need for education regarding recognition, prevention, and treatment of yeast and other vaginal infections, as well as urinary tract infections. Participants suggested including information on basic preventive behaviors that they had learned after getting an infection, such as regularly wiping from front to back, and urinating after intercourse. These women also expressed an interest in education on how to practice good hygiene in the field. Most of these women had not served aboard ship, but indicated that women who do serve at sea are likely to have similar needs for information regarding ways to practice good hygiene in while serving on various types of sea duty.

Enlisted women also expressed a desire for more education on contraceptive options, and the risks and benefits of each option. Some women were particularly concerned about the risks of various types of cancer that might be associated with hormonal contraceptives.

Participants in the enlisted women's focus group suggested that there should be mandatory education for women in the Navy who are pregnant. Topics covered should include child care, nutrition, and budgeting.

The enlisted female participants' surprise at the rate of STD infection found among Navy women in the *1995 DoD Survey of Health and Related Behaviors Among Military Personnel* suggests a need for education regarding Navy women's risk of contracting an STD. General comments also indicated that many Navy women do not obtain condoms or insist that their partners use them. This reported behavior lends further support to the need for education regarding the risks and consequences of STD infection among Navy women. Some comments also suggested that many Navy women may lack critical knowledge about the consequences of different STDs. For

example, participants directly stated that many Navy women do not know that some STDs, particularly in women, can be asymptomatic. A case was also mentioned of a Navy woman diagnosed with HPV who believed that she could not get pregnant. Such inaccurate beliefs about HPV may lead to unwanted and potentially high-risk pregnancies among women diagnosed with this infection. Navy women participating in the focus group agreed that education about the consequences of the various STDs was needed.

Format

Enlisted women in the focus group agreed that any reproductive health intervention for enlisted women should differ from and go beyond the health education already offered in the Navy. Specifically, education should be delivered in an interactive format rather than a lecture format. Enlisted women participating in the group expressed an interest in group discussions of reproductive health issues, so discussion and exchange of information between peers (other enlisted women) should be included. In general, a directive tone should be avoided in any type of educational intervention for enlisted women. Enlisted women in the focus group suggested that education should let women know what to look for rather than tell them what to do. Enlisted women also emphasized that care should be taken to deliver health education in a format that is interesting and relevant to Navy women.

Delivery

Due to the limited nature of reproductive health education during basic training, as well as the difficulty many new recruits experience in absorbing this information at that time, enlisted women in the focus group suggested delivering this education later, possibly at A school or during ATD. Monthly, mandatory classes on specific reproductive health topics such as pregnancy were also recommended. Monthly or at least periodic "booster" education sessions were considered necessary to keeping a sailor's knowledge fresh and current. Participants also emphasized the importance of mandatory education, since they reportedly have difficulty obtaining clearance from the work center to receive any nonmandatory education. Alternatively, women might be available to attend a regular brown bag lunch discussion session that focuses on increasing enlisted women's reproductive health knowledge in an interesting and relevant format.

Enlisted female participants also noted that reproductive health education information could be easily disseminated by Navy clinicians at women's annual examinations. All enlisted women are required to get an annual exam, and many may not see their health care providers at any other time. For this reason, many enlisted women in the focus groups felt that more health information, particularly on contraception, should be delivered at annual exams for enlisted women.

Enlisted participants noted that, if education is not delivered at some universal service point, such as the annual exam, then it would be most feasible and effective to deliver education to smaller units such as work areas, rather than entire companies.

When the idea for a computer-based reproductive health intervention was presented, enlisted women in the focus group generally agreed that this was a good idea because computer education is more private, less time consuming, can be tailored to the user, can be used to obtain responses to specific questions. However, these women were concerned about computer access issues. They were not certain where all Navy women could easily access computers. They also acknowledged that some individuals are not computer literate.

Promoting use of computer-based health education

Participants in the focus group of enlisted women may several suggestions for promoting the use of a reproductive health education program that is computer-based. These women suggested that the computer intervention be:

- ▶ Very eye-catching,
- ▶ Placed in locations other than the clinic, since people there are usually already sick and may not feel like using it,
- ▶ Located in a private place to ensure confidentiality.
- ▶ Advertised throughout the installation.

Conclusions

Comments from enlisted women in the focus group indicated that reproductive health education for Navy women is not delivered effectively or frequently enough. According to these participants, effective education would be delivered regularly, in an interactive format, and include current and relevant information. Effective reproductive health education should let women know what to look for rather than tell them what to do. The implication is that women who know what to look for and who know their reproductive health care options will be better able to make informed decisions about their reproductive health. As a result, these women will be more proactive in caring for their own health as well as seeking care when necessary. Enlisted women also agreed that education should include instruction on how to speak to a health care provider to get the information necessary to protect one's health. Since Navy women said that they generally do not see a health care provider frequently, and cannot expect to have a regular provider who knows their history, effective communication on the part of the patient at the few, key medical visits may be critical to obtaining important medical information and advice.

More specifically, education is needed to prevent pregnancies that interfere with the mission of all enlisted personnel. Comments from participants in the enlisted women's group provided valuable insight into the reasons for unintended pregnancy among Navy women, as well as the consequences, since many of these women had been reassigned as a result of pregnancy while on active duty. These participants indicated that most Navy women who experienced mistimed

pregnancies probably do because of 1) lack of knowledge with regard to their chances of getting pregnant with various forms of contraception (including none), 2) lack of understanding of the negative consequences of pregnancy for enlisted Navy women, 3) an unmet emotional need that they feel will be met either by their sexual partner or by a baby, 4) an expectation that their partner will stay with them and support them if pregnancy does occur. Participants in the group of enlisted females did not indicate that Navy women get pregnant in order to obtain institutional benefits such as a discharge, release from duty or deployment, a more desirable assignment, or more money. Their comments suggested that a discharge was not likely, release from duty was no longer automatic or simple, duties assigned pregnant women were not desirable, and financial support was not likely to be adequate for comfortably raising a child. Comments from the focus group participants indicated that the following approaches that may prove effective in reducing unintended or mistimed pregnancy among Navy women:

- ▶ Early and repeated education on the costs and consequences of unplanned pregnancy in the Navy,
- ▶ Presentation of testimonials from Navy women who have experienced unintended pregnancy during active duty,
- ▶ Clear, detailed information about contraceptive options and their potential risks and benefits to different women in different situations,
- ▶ Education on how to deal with the possible side effects of different contraceptives,
- ▶ Education on obtaining adequate supplies of a preferred contraceptive in preparation for deployment, and
- ▶ Positive sources of support, counseling, and advice for women during periods when they may be at increased "risk" for unplanned or unprotected sexual activity (e.g. the first year of service, combat, sea duty, in the field, relocation, assignment to companies with a predominance of males).

Basic education on contraception is also needed to help enlisted women prevent unintended pregnancies. Contraception is widely available in the military; but little contraceptive information is available. Enlisted women need to know about their contraceptive options, the risks and benefits of each option, how to obtain the type and quantity contraception to meet their specific health and lifestyle needs, and how to deal with the potential side effects of contraceptives.

Although the enlisted women were very concerned about pregnancy, they tended to talk more about issues of basic hygiene and the conditions women experience as a result of poor hygiene. Participants in the focus groups of enlisted women may have been most interested in the topics of hygiene and genitourinary infections because these are issues that almost all enlisted women deal with on a regular basis. According to the enlisted women in the focus group, information on the prevention and treatment of female genitourinary infections in a military environment is not readily available.

Comments made during the enlisted women's focus group suggested that Navy women may be less concerned about STD infection than either other genitourinary infections or pregnancy. The relative lack of concern with STD infection among Navy women could be due in part to the lack

of educational emphasis on risks, prevention, and consequences of infection with the various types of STDs for women in the Navy. Some participants in the enlisted women's focus group made comments indicating that either they or Navy women they knew had received inaccurate or incomplete information about STDs and their potential consequences.

During discussions of all focus group topics (pregnancy, STDs, hygiene, and genitourinary infections) participants repeatedly brought up issues of health care delivery in the military. Reports from participants indicated that clinicians frequently conduct Pap tests and screen enlisted women for pregnancy and STD infection. However, focus group participants described several barriers to enlisted women receiving preventive care and treatment. These barriers included:

- ▶ Lack of time on the part of both the health care providers and enlisted women to deliver and obtain health care,
- ▶ Long waits for appointments and at the clinic after a woman shows up for an appointment,
- ▶ Lack of continuity in care because a different clinician is seen each time, and
- ▶ Poor patient/provider communication.

Overall, findings from the San Diego focus groups indicated that enlisted women would benefit from a computer-based reproductive health education intervention if it could be made accessible to all enlisted personnel. Participants indicated that, to their knowledge, CD-ROM based materials had not been used to deliver reproductive health education to Navy women. Comments from participants suggested that this type of health education intervention would be useful to Navy women if the materials were adaptable to the user, accessible to all personnel, and use of the CD-ROM was not too time consuming. Participants also recommended that the intervention be mandatory to ensure that the Navy personnel use it. Findings from the focus groups also indicated that enlisted women need a mechanism for obtaining reproductive health information that is current and tailored to their installation and service. These findings suggest the need for an educational intervention in which the information can be 1) tailored to the user's input, and 2) updated regularly.

Recommendations

Below is a detailed list of recommendations for developing a interactive, computer-based materials to educate enlisted women about their reproductive health. Recommendations were either offered by focus group participants or developed based on comments made by focus group participants. The first set of recommendations deals with content for the intervention. The second set of recommendations deals with the delivery of the intervention. This section concludes with a list of questions that should addressed by the intervention.

Content

General format

- ▶ Make all material should be interesting, relevant, in-depth, and up to date.
- ▶ Use case studies, case reports, stories, and scenarios to illustrate educational points.
- ▶ Include a menu of questions (see "Specific questions enlisted women need answered" below.)
- ▶ If possible, extend or adapt the educational intervention to Navy males and commanders of enlisted women (officers). The behaviors of both of these groups impact the reproductive health of enlisted women and they need to know the repercussions of their actions.
- ▶ It would be useful to include content that can be tailored to the user based on service, age, job, marital status, etc.
- ▶ Military terminology should be used in writing the content.
- ▶ Because of the limited access most enlisted personnel have to computers, creating a program that could produce brochures or slides, or be adapted to a videotape format would be useful.

General women's health content

- ▶ Include information on basic female physiology.
- ▶ Include basic education on recognizing symptoms of UTIs, vaginal infections, STDs, and pregnancy; and on how to react to those symptoms.
- ▶ Include information on causes of vaginal infections, UTIs, and the various STDs; then educate on their prevention and treatment.
- ▶ Include stories or testimonials on the real consequences and costs of reproductive health problems. Participants indicated that personalized information would have a greater impact.
- ▶ Instruct women on how to ask about diagnoses and treatment options.
- ▶ Emphasize the importance of the annual well woman exam.
- ▶ Include a directory of information resources for enlisted women to find out how to deal with their unique reproductive health concerns.
- ▶ Provide practical suggestions for preventing STDs and pregnancy that go beyond contraception (e.g. communication, safe dating practices, etc.).
- ▶ Clarify what causes cervical cancer and how it is diagnosed and treated. Comments from enlisted women suggested that abnormal Pap results may be confused with a definitive diagnosis of cervical cancer by patients and possibly some Navy clinicians as well.

Specific pregnancy and contraception content

- ▶ Include a section on birth control alternatives, their effectiveness, risks, benefits, etc.
- ▶ Include instruction on normal vs. abnormal pregnancy and how to treat.
- ▶ Include "real-life" stories of women who have experienced pregnancy in the military with an emphasis on costs (e.g. being separated from children for long periods during deployment, struggles with obtaining reliable child care during deployment and duty, women experiencing pregnancy complications, weight gain, etc.)

Hygiene and genitourinary infections

- ▶ Provide tips (perhaps from experienced soldiers, health care providers, and commanders) for maintaining hygiene on base, at sea, and in the field. During the focus groups, more experienced enlisted women served as sources of information for the younger women with less military experience. Peer information sources should be drawn upon more effectively.
- ▶ Recommend items, medications, etc. to use aboard a vessel or in the field.

Sexually transmitted diseases

- ▶ Emphasize the importance of using condoms alone or with other contraception to prevent STD infection.
- ▶ Include "real life stories" of enlisted women and men who were infected with STDs and treated.
- ▶ Also include prevalence data (perhaps from the local clinic on base) to give users the sense that STD infection is common.

Delivery

Who?

- ▶ Small group leaders may be the best people to deliver reproductive health education, but they need to learn how to deliver the education without judging or lecturing.
- ▶ Health care providers may also be able to expose women to reproductive health education and the intervention at the clinic during the women's annual exam.

When?

- ▶ Educate Navy women as early as possible. Provide reproductive health education during basic training or before.
- ▶ Reproductive self-care and prevention education should be provided at several points by a team of trained individuals. This team may include NPs, IDCs, physicians, work group leaders, commanders, etc. The education provided by each individual at each point should follow on earlier education from other educators.
- ▶ One way to deal with the embarrassment of having others know that a woman is using this intervention is to make it part of a mandatory training or the annual exam, so that everyone has to view it.

Where?

- ▶ Education must be delivered in a manner that ensures confidentiality and privacy while being available to all enlisted personnel. Women do not want to use this type of intervention in front of others.
- ▶ Many enlisted personnel do not have easy access to a computer. Therefore, a computer should either be set up at the clinic or at another location with public access but private user areas.

How (what will it take to deliver?)

- ▶ Make the use of the intervention mandatory to ensure that enlisted personnel use it and no one is singled out.

Specific questions enlisted women need answered

About general women's health

- ▶ What reproductive health problems might I experience in the military (e.g. during field exercises, deployment, basic training)?
- ▶ How can I deal with these health problems in the various settings?
- ▶ What are my options if I have reproductive health problems in the field or at sea (e.g. menstrual changes, vaginal infections, UTIs)?
- ▶ How does each reproductive organ in a woman function?
- ▶ What chemicals may affect my reproductive health and/or pregnancy? How?
- ▶ Why is a pelvic exam and Pap important?
- ▶ What is a Pap smear?
- ▶ What are the signs of a problem (infection, pregnancy)?
- ▶ What causes cervical cancer?
- ▶ How is cervical cancer diagnosed and treated?

About pregnancy and contraception

- ▶ How do I get pregnant?
- ▶ How do I know I am pregnant?
- ▶ What regulations may impact my pregnancy?
- ▶ What should I do if I suspect I might be pregnant?
- ▶ What impact could pregnancy have on my military career/service?
- ▶ What impact could military service have on my pregnancy/baby?
- ▶ What chemicals may affect the health of my baby during pregnancy? How?
- ▶ What are my contraceptive options?
- ▶ How do I choose contraception that works for me?
- ▶ What type of birth control is best to use in the field and at sea? Why?

About hygiene and genitourinary infections

- ▶ How can I practice good hygiene? In the field? During deployment?
- ▶ What do I need to take into the field and aboard a vessel to maintain hygiene and genitourinary health?
- ▶ What are the different types of genitourinary infections?
- ▶ What causes them?
- ▶ How are they treated?
- ▶ What makes them worse?
- ▶ How can genitourinary infections be treated in the field or aboard a vessel?

About sexually transmitted diseases (STDs)

- ▶ What STDs can women get?

- ▶ How do women get these STDs?
- ▶ How do I know I have one of these STDs?
- ▶ What are the consequences of having each type of STD infection?
- ▶ How likely am I to get or have an STD (based on my sexual practices)?
- ▶ How do I know if my partner has an STD?
- ▶ How can I protect myself from STD infection?
- ▶ What should I do if I think I might have been infected?
- ▶ How can STDs be treated?

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Focus Group Report for Naval Station San Diego

Appendices

Appendix A: Enlisted Women's Screener

Participant Screeners for Focus Groups on Enlisted Navy Women's Reproductive Health

Recruiting Goals

- ▶ The participants shall be enlisted Navy women.
- ▶ Twelve married, enlisted Navy women will be recruited for the first group. (The final group will include 8 to 10 participants but over recruiting is necessary to allow for attrition).
- ▶ Twelve single, enlisted Navy women will be recruited for the second group. (The final group will include 8 to 10 participants but over recruiting is necessary to allow for attrition).
- ▶ Each group shall have a mix of race/ethnicities reflective of the Navy enlisted female population. In order to be representative of the female enlisted Navy population, approximately half of the participants in each group should be African American. At least a third of the participants should be white. Ideally, at least one Hispanic women would participate in each focus group as well.
- ▶ Participants shall not have participated in a focus group or other qualitative research study during the past year (telephone studies are acceptable).
- ▶ Officers will be excluded.

Scheduling

The schedule for the focus groups follows:

June, 1998

Site: _____

10 participants each group.

- ▶ Participants will be paid \$25 for their participation, provided they are off-duty at the time of the focus group.
- ▶ Refreshments will be offered to participants.
- ▶ The identity of the participants will remain confidential.

Appendix B: Clinician's Screener

Clinical Participant Screeners for Focus Groups on Enlisted Women's Reproductive Health

Recruiting Goals

- ▶ The participants shall be physicians, nurse practitioners, and physician assistants who provide reproductive health care services for enlisted Navy women.
- ▶ Participants shall not have participated in a focus group or other qualitative research study during the past year (telephone studies are acceptable).

Scheduling

The schedule for the focus groups follows:

June, 1998

Site: _____

10 participants each group.

- ▶ Participants will be paid \$25 for their participation, provided they are off-duty at the time of the focus group.
- ▶ Refreshments will be offered to participants.
- ▶ The identity of the participants will remain confidential.

Appendix C: Moderator's guide for focus groups with enlisted women

Focus Group Questions: Enlisted Navy Women

Introduction:

Hello, my name is _____. Thank you for participating in this focus group today. A focus group is a group discussion where several participants explore a topic. I will be moderating this focus group, and _____ (name of recorder) will be taking notes.

We are here from Macro International, which has been contracted by the U.S. Army to conduct a 4-year research project to investigate enlisted women's needs for health education on basic gynecological and reproductive health issues. We are conducting surveys and focus groups like this one to determine the needs of enlisted women. Based on that information, we plan to develop and test educational materials with enlisted Army and Navy women. This study is important because the number of women in the U.S. Armed Forces is increasing, and statistics show that the rate of unintended pregnancies, sexually transmitted diseases (STDs), and common preventable gynecological conditions, such as vaginitis, among enlisted women deserve attention.

The purpose of this focus group is to gather information which will help in designing the educational materials. This information is being gathered from enlisted Army and Navy women at four bases in the United States. During the group, we will be discussing reproductive health issues, military health care, and health education in the military. I will ask you about your perceptions of the attitudes, behaviors, and preferences of enlisted **Navy** women in general. At no time will you be asked about your own behavior. The focus group should take about an hour and a half.

This study is anonymous, so your name or any other identifying information will not be included in the report. All information will be kept confidential. Your participation is voluntary, and you may decide to stop at any time. If you decide to stop you will not be penalized in any way. If you have any questions or don't understand what I am asking at any time, please let me know and I will explain further.

The most important thing is to be straightforward and honest. We are interested in your opinions, and different opinions are welcomed. There are no right or wrong answers. We understand that talking about reproductive and gynecological issues can be uncomfortable, but please say whatever you are thinking.

I would just like to ask that you speak one at a time and that everyone participate. If you have any questions about this process, I will answer them now.

(tell them about tape recorder and/or note taker. Give them consent form to read and sign, and explain honorarium. Have them put name [first name or nick name] on a sign to place in front of

them.)

I'd like to start the discussion with a round of introductions. Let's go around the table. I'd like each of you to give your name, say where you are from, and how long you've been in the Navy.

GENERAL HEALTH

How important is health to women? How do you think being an enlisted Navy sailor affects feelings about health?

What do Navy women worry about most when it comes to their health?

- What should they worry about?
- What about their reproductive health? (*Paraphrase to explain "reproductive" if needed.*)
Go to section below that was mentioned first or most often by participants.

HEALTH CARE

How do enlisted women feel about health care in the Navy?

Where do most enlisted Navy women get gynecological care?

- Why? (*If respondent says private physician, probe Why not military?*)

What types of questions do Navy women ask their health care providers?

- What should they ask?
- Why don't they ask these questions?
- Are the questions that Navy women ask military health care providers different from those they ask civilian health care providers?

What are the reasons women do not to get an annual Pap test?

- What would make it easier?

What types of health services and/or counseling do Navy women typically get before deployment?

- What services should they get?

How common is it for women to get a physical before deployment? How about a Pap and pelvic exam?

- When is it important for a woman to get a predeployment gynecological exam?
- What are reasons women do not get this exam before deployment?

VAGINAL INFECTIONS/HYGIENE

What do most Navy women do when they think they have a vaginal infection?

What do most Navy women do to prevent vaginal infections?

- Are there any reasons that Navy women may have trouble preventing vaginal infections

What would help Navy women to prevent vaginal infections? What would help them get appropriate treatment for vaginal infections?

What do Navy women do to prevent infections when they are in the field?

- What do they do when they think they have a vaginal infection in the field?
- What medical and hygiene supplies do Navy women pack when they are deployed?

PREGNANCY

How common do you think unintentional pregnancy is among enlisted Navy women?

How much do you think Navy women worry about getting pregnant?

- Do you think they should be more concerned? Why or why not?
- What happens to enlisted women who get pregnant in the Navy?
- Why do you think some enlisted women get pregnant in the Navy?

What should an enlisted woman do if she thinks she might be pregnant?

CONTRACEPTION

What do enlisted women need to know to better prevent unintentional pregnancy?

What are the ways that Navy women prevent pregnancy? How about in the field?

- What are the types of contraceptives most often used by Navy women? Why?
- What types of contraception are used in the field? *(If different from general types, probe to find out why.)*

How hard is it to get contraception when you need it in the Navy?

- What makes it hard to get?
- What could make it easier?

How hard is it to get contraception in the field?

- What makes it hard to get?
- What could make it easier?

What do enlisted women need to know to use contraception consistently and effectively?

SEXUALLY TRANSMITTED DISEASES

What STDs do you think are most common among women?

Repeat with each STD indicated:

- How much do you think Navy women worry about getting _____?
- Do you think they should be more concerned? Why or why not?
- What are some of the things that can happen to a woman who gets this STD?

What percent of Navy women do you think have STDs?

- A 1995 survey says that ____ % of Navy women reported having an STD last year.
- How do you feel about this information? Does it seem high or low to you? Why?

What are some ways that women protect themselves from STDs?

- Why don't some women do these things?

What do enlisted women need to know to better protect themselves from STDs?

CONDOM USAGE

What do you think most sexually active women in the Navy think about using condoms?

- How about their partners?
- What do their health care providers tell them?
- What other messages do they get about condom use?

When should a woman use a condom?

- Does it depend on other contraception she is using? Does it depend on her partner?
Something else?

What makes it hard to use condoms every time?

- What would make it easier?

SEXUAL COMMUNICATION

We know that people who are able to talk with their sexual partners about sex and condoms are more likely to practice safe sex.

- Why do you think this is so?

What makes talking about these issues with partners difficult for women? Why?

- What would make it easier?

What do you think are the costs, or risks, of talking about sex with a partner (e.g., condoms, sexual history)? What would be the benefits?

HEALTH EDUCATION

What kinds of health education are available in the Navy? How about reproductive health or women's health?

- How helpful was it? Why?

What reproductive health topics do you think enlisted Navy women **need** to know more about?

- Why?
- Is this different from what they **want** to know more about?

How can enlisted Navy women find out about these topics now?

- Where do they go? Who do they usually talk to?

We want to teach enlisted women about prevention and self-care.

Imagine that you were put in charge of getting information on reproductive health to all women at your base. What do you think would be the best way to get this information to enlisted women?

- What would be the most effective way to present it?
- What would help them learn more about self-care and prevention?

What could the Navy do to get health information to all enlisted women in the Navy?

If we made a computer program about prevention and self care, what are some things that would make enlisted women interested in using it?

Have you ever used a computer to learn about health (e.g. via the Internet, in classrooms, etc.?)

Would you recommend it to other women? Why or why not?

- What would you change?

What skills would women like yourselves like to see demonstrated on a computer program?

Give a couple of examples: How to use condoms correctly? How to talk to a partner about sexual matters? How to practice proper hygiene in the field?

What kinds of scenarios, or stories, would enlisted Navy women like to see in this program?

- What would be realistic?

Where would enlisted Navy women want to use a program like this?

- *Probe if unresponsive: Health center/clinic? Computer laboratory? Kiosk? Other place?*

What other materials or education would help enlisted women improve their self-care and preventive behaviors?

If we make a pocket field guide that summarizes prevention and self-care information, what would be helpful to include in it? What should it look like?

How could the Navy ensure that every active duty women received a pocket field guide?

Appendix D: Moderator's guide for focus groups with Navy health care providers

Focus Group Questions: Military Clinicians Serving Navy Women

Introduction:

Hello, my name is _____. Thank you for participating in this focus group today. A focus group is a group discussion where several participants explore a topic. I will be moderating this focus group, and _____ (name of recorder) will be taking notes.

We are here from Macro International, which has been contracted by the U.S. Army to conduct a 4-year research project to investigate enlisted women's needs for health education on basic gynecological and reproductive health issues. We are conducting surveys and focus groups like this one to determine the needs of enlisted women. Based on that information, we plan to develop and test educational materials with enlisted **Navy** and Army women. This study is important because the number of women in the U.S. Armed Forces is increasing, and statistics show that the rate of unintended pregnancies, sexually transmitted diseases (STDs), and common preventable gynecological conditions, such as vaginitis, among enlisted women deserve attention.

The purpose of this focus group is to gather information which will help in designing the educational materials. This information is being gathered from military clinicians at four bases in the United States. During the group, we will be discussing health and issues of concern to enlisted **Navy** women including reproductive health issues, military health care, and health education in the military. I will asking you about your perceptions of the attitudes, behaviors, and preferences of enlisted **Navy** women and their clinicians in general. At no time will you be asked about your own behavior. The focus group should take about an hour and a half.

This study is anonymous, so your name or any other identifying information will not be included in the report. All information will be kept confidential. Your participation is voluntary, and you may decide to stop at any time. If you decide to stop you will not be penalized in any way. If you have any questions or don't understand what I am asking at any time, please let me know and I will explain further.

The most important thing is to be straightforward and honest. We are interested in your opinions, and different opinions are welcomed. There are no right or wrong answers. We understand that talking about reproductive and gynecological issues can be uncomfortable, but please say whatever you are thinking.

I would just like to ask that you speak one at a time and that everyone participate. If you have any questions about this process, I will answer them now.

(tell them about tape recorder and/or note taker. Give them consent form to read and sign, and explain honorarium. Have them put name on a sign to place in front of them.)

I'd like to start the discussion with a round of introductions. Let's go around the table. I'd like each of you to give your name, say where you are from, and how long you've been in the **Navy**.

GENERAL HEALTH

How important do you think health is to enlisted women in the **Navy**? Why do you think this?
How do you think being an enlisted **Navy** soldier affects enlisted women's feelings about health?

What do **Navy** women worry about most when it comes to their health?

- What should they worry more about?
- What about their reproductive health?

HEALTH CARE

In general, how do you think enlisted women feel about health care in the **Navy**?

What do **Navy** women have a right to expect from their health care providers?

How comfortable do you think most women feel talking to their health care provider? (*Give examples: talking about STDs, condom use, sexual dysfunction.*)

- What makes them more or less comfortable?

How comfortable are health care providers in talking about these matters with patients?

What types of questions do **Navy** women ask their health care providers?

- What should they ask?

What types of questions do health care providers ask enlisted women about their reproductive health (i.e., sexual practices history)?

- What should they ask?

What types of reproductive health screening and/or counseling are typically provided to enlisted **Navy** women?

- What should be provided (that isn't currently)?

What types of health services and/or counseling do **Navy** women typically get before deployment?

- What about pregnancy testing?

How common is it for women to get a physical before deployment? How about a Pap and pelvic exam?

- When is it important for a woman to get a predeployment gynecological exam?
- What are reasons women do not get this exam before deployment?

What types of health services and/or counseling do **Navy** women typically receive in the field?

- What health services or counseling should they receive in the field?

VAGINAL INFECTIONS/HYGIENE

How common do you think vaginal infections are among enlisted women in the **Navy**? How do you think being a soldier in the **Navy** affects enlisted women's risk for vaginal infection?

What do most **Navy** women do to prevent vaginal infections?

- How about in the field?

What medical and hygiene supplies do **Navy** women pack when they are deployed?

- What should they pack?

How should health care providers prepare for the hygiene needs of enlisted women in the field?

- What supplies should health care providers make sure are available to enlisted women?

What would help them get appropriate treatment for vaginal infections?

- Again, what do they do differently in the field?

PREGNANCY

How common is unintentional pregnancy among enlisted **Navy** women? How do you think this compares to civilian women?

How much do you think **Navy** women worry about getting pregnant?

- Do you think they should be more concerned? Why or why not? (*Prompt: What happens to enlisted women who get pregnant in the Navy?*)
- Why do you think some enlisted women get pregnant in the *Navy*?

What would help *Navy* women avoid unintended pregnancies?

- What can their health care providers do to help?

CONTRACEPTION

What are the types of contraceptives most often used by *Navy* women? Why?

What type of counseling/education about contraception do health care providers give enlisted women? When?

- How could they do this more effectively?

How hard is it for enlisted to get contraception when they need it?

- What makes it hard to get? What could make it easier?

What do enlisted women need to know to use contraception consistently and effectively?

- What else do enlisted women need to know to better prevent unintentional pregnancy?

How do most *Navy* women prevent pregnancy when they are in the field?

How hard is it for enlisted women to get contraception in the field?

- What makes it hard to get? What could make it easier?

What should health care providers do to address the contraceptive needs of enlisted women in the field?

SEXUALLY TRANSMITTED DISEASES/CONDOM USE

Let's talk a little about STDs. What STDs do you think are most common among *Navy* women?

How much do you think *Navy* women worry about STDs?

- Do you think they should be more concerned? Why or why not?

What percent of *Navy* women do you think have STDs?

- A 1995 survey says that ____ % of *Navy* women reported having an STD last year.
- How do you feel about this information? Does it seem high or low to you? Why?

What do enlisted women need to know to better protect themselves from STDs?

- What about condoms? What do they need to know?
- What do they think about using condoms? What about their partners?

Should health care providers be responsible for giving STD prevention information to enlisted women?

- How should health care providers promote condom use among enlisted women?

HEALTH EDUCATION

Let's talk more about health education in the Navy. What kinds of health education are available? How about reproductive health or women's health?

- How adequate is the health education that enlisted women receive? Why do you think this?

What reproductive health topics do you think enlisted **Navy** women **need** to know more about?

- Why? Is this different from what they **want** to know more about?

How can **Navy** women find out about these topics now? How do they?

- Where do they go? Who do they usually talk to?

We are developing a reproductive health intervention to teach enlisted women about prevention and self-care.

Imagine that you were put in charge of getting information on reproductive health to all women at your base. What do you think would be the best way to do this?

- What would be the most effective way to present it?
- What would help them learn more about self-care and prevention? What content?

What could the **Navy** do to get health information to all enlisted women in the **Navy**?

If we made a computer program about prevention and self care, what are some things that would make enlisted women interested in using it?

- What would it look like?

What skills would enlisted women benefit from seeing demonstrated on a computer program?

Give a couple of examples: How to use condoms correctly? How to talk to a partner about sexual matters? How to practice proper hygiene in the field?

What kinds of dramatic stories do you think would be useful for enlisted **Navy** women to see in this program? What are some realistic scenarios?

Where would enlisted **Navy** women use a program like this?

Have you ever used a computer to teach about health (e.g. via the Internet, in classrooms, etc.)?

Would you recommend it to other clinicians?

- Why or why not?

What are some things that would make clinicians interested in using computer-based education with patients? Does being a military clinician affect the willingness or interest in using computer materials with patients?

What other materials or education would help enlisted women improve their self-care and preventive behaviors?

If we make a pocket field guide that summarizes prevention and self-care information, what would be helpful to include in it? What should it look like?

How could the **Navy** ensure that every active duty women received a pocket field guide?

APPENDIX C

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Focus Group Report for Naval Medical Center Norfolk

June 2-3, 1999

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Background

The Department of Defense (DoD) contracted with Macro International Inc. to conduct a study of enlisted women's needs for basic gynecological and reproductive health education, from the perspective of military health care providers and enlisted women themselves. Based on the results of this needs assessment, a culturally sensitive, multimedia CD-ROM and accompanying materials will be developed. This intervention will then be tested in Army and Navy medical clinics in conjunction with annual Pap test screening. As part of the needs assessment, a series of focus groups were conducted to ensure that attitudes and beliefs related to reproductive health behavior of enlisted women were examined. A total of 8 groups with enlisted women, 4 groups with physicians, and 4 groups with nurse practitioners, physician assistants, and medical corps personnel were conducted at two Army and two Navy installations. At each installation, one focus group will be conducted with married, enlisted women; one with single, enlisted women, one with military physicians, and one with other military providers of health care for enlisted women. This report discusses the findings of four focus groups conducted with enlisted Army women and their health care providers at Naval Medical Center Portsmouth, Virginia.

The purposes of all focus groups conducted for this project were:

- 1) To assess the most pressing reproductive and gynecological self-care education needs of enlisted women on base and in the field; and
- 2) To assess the range of current health education efforts for enlisted women.

Strengths and Limitations of Qualitative Research

Focus groups were chosen as one research method to be used in determining the reproductive education needs of enlisted Army and Navy women. Focus group research is qualitative in nature, so the results are not quantifiable. Qualitative research provides information for clarifying theories, creating hypotheses, and giving direction for future research. The results presented in this report are an objective observation of attitudes, preferences, and comments of those participating in the focus groups. Although focus group participants were drawn from the target populations of enlisted women and their health care providers, they were not chosen on any statistical basis. Therefore, no statistical inferences should be drawn from the results of the focus groups. Findings also cannot be generalized to the target population.

Methodology

Macro International conducted four focus groups to address the needs of this project. Two more focus groups, one consisting of married enlisted women and one of single enlisted women, were conducted in a meeting facility near the Cheatham Annex on June 2, 1998. One focus groups consisting of married and single enlisted women working in the Medical Corps was held at the

Portsmouth Naval Medical Center on June 2, 1999. One focus group of Navy physicians and nurse practitioners (NPs) was conducted at the Navy Obstetrics and Gynecology Clinic at DePaul Hospital in Norfolk on June 3, 1999. Participants received no monetary compensation for their voluntary participation in the focus groups.

Navy physicians and NPs with experience treating enlisted women were recruited from WAMC. Physician's assistants (P.A.s) who had experience treating enlisted women were recruited from a variety of clinics and departments in the Portsmouth area. The participants in the clinician focus group were primarily white with a mix of male and female clinicians. The clinicians had a variety of deployment, clinical, and educational experiences. Most, if not all, of the P.A.s had been deployed overseas. Participants in the physicians' focus group had, on average, fewer years of service than the NPs.

Two groups of enlisted women were recruited from the Cheatham Annex. These enlisted women's focus groups included primarily women of African American descent. Half the women in the focus group at Portsmouth Naval Medical Center were white and half were black. Most enlisted women participating in the focus groups had less than 6 years of service in the Navy. On average, the married women had more years of service than the single women. Several of the enlisted women had been deployed overseas and aboard ship.

CDR Margaret Ann Connors, a nurse practitioner who serves at Portsmouth Naval Medical Center, recruited all focus group participants were recruited. A screener was developed at Macro International Inc. to be used as a guide by CDR Connors for selecting focus group participants. A moderator's guide was developed at Macro International Inc. to answer the general questions listed in the Background section of this report and to obtain other feedback that may be useful in developing an educational CD-ROM to help enlisted women care for their reproductive health. The moderator's guide was approved by the Internal Review Board (IRB) at Macro, the U.S. Army Medical Research Acquisition Activity at Fort Detrick, Maryland, and the head of Clinical Investigation & Research Department (CIRD) at Naval Medical Center Portsmouth. A trained moderator from Macro International Inc led all focus groups. A research assistant, who is a trained focus group moderator from Macro International Inc., also observed the focus groups and took notes. Both focus group facilitators from Macro were female. CDR Connors also observed the enlisted women's focus group at Naval Medical Center Portsmouth. All focus groups were audio taped.

General Findings

Below are the general findings of the four focus groups conducted at Portsmouth for the project, "CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women." The findings are organized under the general categories of topics to be covered in the moderators' guides (see Appendices C and D).

General Health

Most participants, enlisted women as well as their clinicians, agreed that health was important for enlisted women in the Navy so they could take care of their bodies and be able to handle the physical demands of their jobs. While some felt that Navy women were likely to care about their health because they were women, others felt that enlisted women did not take their health as seriously as they should. Some felt that enlisted women did not care enough about their health because they had free medical care through the military and any problems would be handled for them. Others said that enlisted women were unlikely to care about their health unless they had a problem. However, enlisted women who worked in the Medical Corps thought that their peers were more likely to recognize and address a medical problem while those with other types of jobs would be likely to ignore symptoms. The clinicians agreed that enlisted women took their health for granted unless they had a problem, but they felt that this was mostly true for younger women. While older enlisted women seek out good health care, the younger women have little knowledge or experience about preventive health care when they enter the military. Participants thought that this lack of experience was due to adolescent behavior or from having a lower socioeconomic background. One clinician stated, "Health is only important to them when they need something."

When asked about what Navy women worry about concerning their health, a variety of issues emerged. Older, married enlisted women appeared to be more concerned about issues related to their health care, such as proper treatment and care, especially continuity of care, quality of military medical care, and accuracy of tests. Younger, enlisted women said that their peers were concerned about infectious diseases, such as sexually transmitted diseases (STDs) and urinary tract infections (UTIs). Fatigue and general concerns about physical labor in the Navy were also mentioned.

Health Care

Many of the enlisted women focus group participants cited quality of medical care as a primary area that women in the Navy were concerned about in terms of their health. The issues included concerns in the following categories: lack of continuity of care, poor quality of care, discomfort with certain practitioners, and problems during deployment.

Several women were concerned that they were unable to see the same doctor at each medical visit, leading them to feel that the care provider they saw was unlikely to "know what was going on." Others said they felt unimportant to their doctors when they could not see the same one. The enlisted women were particularly concerned about lack of continuity of care when they had a health problem, such as an abnormal Pap test. The enlisted women in the Medical Corps said that a new system was in place where women were supposed to see the same practitioner at each visit at the hospital clinic. However, at least one corpsman found this system to be lacking; she had been assigned to a particular doctor but had not seen him in any of her visits to the clinic.

Several issues arose concerning quality of care. Participants felt that the PAs, general practitioners, and corpsman providing care at sick call and in clinics were inexperienced in women's health care. Several of the medical facilities were training facilities for student physicians and corpsman, which promoted the perception that care was not high quality. Some women stated that they wanted to see an OB/GYN physician and other specialists ("a real doctor") when they had a health problem.

Quality of care was also raised when participants had specific complaints. For example, some participants said that the care they received was cursory and inaccurate at times ("They give you Motrin and tell you to go back to work."), so that they had to "be seen 6 or 7 times" before a problem was identified. Some enlisted women believed that tests done at annual exams were not accurate. Others said that tests were not taken when they should have been, and the clinician treated them based on a visual exam ("They can't tell just by looking what you have."). Participants in the clinician groups said that OB/GYN appointments often don't include a sexual history, making it difficult to identify which women needed STD screening.

Enlisted women participants who worked at a branch station were particularly dissatisfied with the quality of care they received because they had a male medical provider who they believed had little knowledge of women's health needs to provide well woman care for them. If they needed any specialty care or testing, the male provider would refer them, so the office visit was seen as a waste of time. Several of the participants from this installation said they needed a female doctor to deal with female problems.

Health care issues were also related to deployment. Prior to deployment, enlisted women received little in the way of women's health services, according to many of the participants. A physical examination is only done if a problem is detected during sea duty screening. One corpsman said, "Sometimes they'll give you physicals before deployment, but they're mostly for immunization." Women's health during these exams is often limited to recommending contraceptive supplies. Clinicians stated that predeployment examinations depend on the command and on access to care. Women also may not have time to get exams prior to deployment. During deployment, enlisted women reported having no trouble obtaining medical and hygiene supplies, but the health care provider they saw for care became a concern. They were more likely to see a corpsman rather than a doctor for care. Because the corpsman was likely to be a peer, which leads to issues about trust and confidentiality.

Other miscellaneous issues were raised concerning enlisted women's health care. One problem for the women at the branch installation was inconvenient hours of the medical facility. They were unable to see the clinician unless they took time off of work, when they would have preferred going in the evening or on the weekend. Another issue raised by clinicians was that women getting Pap tests often have a bad experience and do not return for later screening or for repeat tests. Lastly, one medical corpsman said that medical care is provided differently depending on rank. Officers receive favoritism in getting appointments and get to see the same provider, and enlisted women get "the short end of the stick." This participant said, "Sometimes, it's all about khaki."

Patient/Provider Communication

The enlisted women participants tended to describe communication from their health care providers as limited. The health care provider had little time, maybe 5 minutes to talk, and his or her questions were limited to questions such as "Do you smoke?" and "How often do you have sex?" Some health care providers tell people to use condoms. Some participants reported that clinicians often bring in other people to talk about health care issues with their patients.

When asked what enlisted women should ask their health care providers, the participants mentioned questions such as:

- "Does it look normal?"
- "Does it feel normal?"
- "What are you doing?"
- "Why are you doing it?"
- "Is anything wrong?"

Moreover, some participants felt women should ask their doctors for answers rather than relying on pamphlets for health information.

One participant thought that women wanting condoms should have to ask their doctors for them rather than getting them anonymously, so the doctors could provide health education about STDs and pregnancy. Others thought this would prevent people who were embarrassed to ask from getting the condoms they needed to protect themselves.

Both clinicians and enlisted women reported the need for women to ask doctors to do Pap tests and other tests. In a couple of the groups, participants told the rest of their group that health care providers do not routinely test for STDs, only for HIV. Several women were surprised because they had received STD screening in boot camp and assumed that they received screening every time they had a gynecological examination. One enlisted woman said, "Women would ask if they knew they had to."

One participant said that doctors should just tell patients about their health and any problems they were experiencing. She said, "They (doctors) can just tell us stuff. I mean he (the doctor) knows, I don't know. They can tell when something's going on."

The enlisted women participants reported several barriers to communication with health care providers, including embarrassment, naiveté, apathy, lack of confidentiality, and lack of a consistent provider of care. While some felt that women were too embarrassed to ask questions of their health care provider, others disagreed, feeling that women were well able to ask sensitive questions about their health. Some stated that women should not let embarrassment keep them from getting their questions answered. Another barrier was that some young women in the Navy might also not have introduced to women's health issues. Another woman said that women do not ask their health care providers questions about their health because the women were focused

on the specific health problem during the office visit. One woman stated she did not think asking questions was always worth the effort.

Concerns about confidentiality or quality of care from their sick call clinicians may also prevent candid discussion of health issues according to participants. The participants said women need a confidential counselor, in case they get pregnant or if they get a disease. Others said that they would hesitate to open up to a doctor they did not know. Being an enlisted woman and being in a larger unit were factors seen as contributing to lack of continuity of care, and thus also to poor patient/provider communication. Having a peer as a health care provider—a condition that was more likely on a ship or in the field—made women uncomfortable and kept them from asking questions about their health.

In the clinician group, other barriers to communication were mentioned. For example, clinicians may not have time or support staff to discuss and provide education to women. Several clinicians stated that enlisted women were intimidated by high-ranking officers asking questions. Building trust often takes time, given the training about rank. One participant said that clinicians should not put the responsibility for communication on enlisted women but rather should take the responsibility themselves as well as train other clinicians to promote communication with patients. "It certainly causes problems when you put this responsibility on these 18-year-old women. Maybe we have to take the pressure off of patients. We need to educate GMO's (General Medical Officers), who have very little previous clinical experience, on taking care of patients."

Both enlisted women and clinicians in the focus groups stated that having female peers as educators would be beneficial. The women stated that they preferred talking to other more experienced women in the Navy rather than their health care providers. One woman said, "Not doctors. Most of them aren't any older than us." Some clinicians agreed, saying that having a peer educator may be more beneficial for providing education because of the trust issues some enlisted women had in talking to health care providers of a higher rank.

In the discussions of communication with health care providers, general issues about the Navy's integration of women were raised. The enlisted women stated that the "Navy is not prepared for women" and does not know how to accept the changes that were inherent to integrating women into it. Outside of the medical care, women's health issues could be addressed better boot camp or through periodic briefs on women's issues.

Genitourinary Infections/Hygiene

Participants in the focus groups of enlisted women who were single and who were corpsman appeared most concerned about issues related to hygiene and the prevention and treatment of common genitourinary infections. Both enlisted women and their health care providers reported that vaginal infections and urinary tract infections (UTIs) were common among enlisted women.

Hygiene Issues for Enlisted Women

Some participants perceived few problems with vaginal infections for enlisted women in the Navy. One participant in the group of married enlisted women said, "There are really no problems in the field, when deployed." A clinician reported that vaginal infections during boot camp were not higher than in the general population.

Other women disagreed. Participants reported that uncomfortable discharge or pain was one of the primary health issues about which enlisted women most worry. Some women complained that vaginal infections were a problem in boot camp, because "It's hard to get clean." One clinician explained that enlisted women become concerned about vaginal discharge during boot camp because they were not allowed to bathe as frequently as they were accustomed. However, the vaginal discharge they were experiencing was normal.

Finding the opportunity to practice proper hygiene was also a problem during ship and field deployments. "Sometimes you only have 5 minutes to go to the restroom when you may need 10. You may not have time to clean the way you'd like." Women may have no time at all to shower when in the field. Close quarters, poor sanitation, and poor quality toilet paper were also blamed for causing poor hygiene difficult in deployment situations. "You have to use whatever facilities are around," said one participant.

Poor hygiene was the result of actions by the women and by others. For example, both enlisted women and clinicians participating in the focus groups said that some women do not wash their underwear or other clothes regularly, even though washers and dryers were free. Others reported that some women did not bathe often enough because they were scared to take showers in the shower stalls. At boot camp, commanders made women wear tampons in the pool, even when they were not menstruating, which could lead to vaginal hygiene problems. Concerning deployment, one participant said, "The medical people give you a brief about insects and common diseases but not about women's issues." One woman said that her husband gave her a yeast infection when he committed adultery.

Prevention and Treatment

To prevent yeast infections, enlisted female participants recommended giving information to Navy women about how to keep themselves clean: "It's not hard to stay clean, but it's easier for women to get something." Teaching women how to take care of themselves could occur during boot camp and throughout their Navy career. Advice included: "Bring baby wipes and alcohol pads," and "The water may be cold, so it's hard to take a good shower (when deployed)."

Concerning treatment, the participants said that women can get treated when deployed on the ship, but treatment is more difficult to obtain on other deployments, such as when one is in a tent camp. However, once a woman sees a clinician, yeast infection medication is readily available.

Pregnancy

Pregnancy was of great concern to the Navy, according to participants in all of the groups. The women stationed at the branch installation stated that their command was particularly concerned about pregnancy: "There are 40-50 women here, and about 10 get pregnant every year." The commanders were concerned because women who were pregnant cannot do as much work and cannot be deployed. "There are a lot of females on base that are pregnant, and that means less work getting done," said one participant. Line supervisors were also angry with pregnant women, because other sailors have to pick up their workload. The command and medical personnel were also worried about the fact that these women who get pregnant were often so young and were unaware of the struggle involved in pregnancy and raising kids, especially when one is in the military.

Women who were pregnant can request administrative leave, but it's up to the senior leadership whether to grant it. Some commands treat a woman the same whether or not she is pregnant. For example, hospital corpsmen were worked longer than pregnant women in other jobs, according to clinicians. In other jobs, pregnant women often were assigned to menial tasks. Sometimes supervisors have so many pregnant women that there is not enough light work to assign, and they send the pregnant seamen home. Female supervisors were perceived as being stricter with pregnant women than male supervisors. Other supervisors give women light duty, because they were uneducated about the demands of pregnancy or because they were scared of being blamed for harassment or discrimination. One clinician said, "They have treated women so badly in the past that now they were afraid." Another clinician was critical of supervisors who were too lenient with pregnant women. These supervisors will not make pregnant sailors do work unless a doctor or nurse practitioner tells them that the pregnant women were able to work harder and provides specific instructions.

Most of the participants agreed that some people try to get pregnant to get out of the Navy or to avoid some duty or deployment. Older enlisted women and clinicians said that the number of dependents would change if there were not the incentives. Some of the incentives include getting out of work time, getting out of the barracks, better housing, and paid maternity leave. If they were at sea, they can get off the ship after 20 weeks of pregnancy. According to one clinician, "There are no reasons not to get pregnant." Male sailors also received incentives from the pregnancy: they received paternity benefits and may even get time off duty to attend prenatal appointments. Clinicians said that single mothers were being recruited into the Navy, often with the mistaken belief that all of their needs (family housing, etc.) will be cared for immediately.

Not all women in the Navy try to get pregnant to avoid duty, according to participants. Some Navy women worry about pregnancy, especially if they were not ready or if they were involved with a man who is less prepared for a relationship and parenthood than they were. Those who do not try to get pregnant do so because of mistakes (e.g., being drunk, a broken condom, forgetting to take one's birth control pills). One participant reported getting pregnant while taking birth control pills. Pregnancy also occurs because the women were taking no precautions at all. For example, one single enlisted woman said "Pregnancy is natural. You can't do anything about it." According to the clinicians, enlisted women were often not in stable

relationships: they consider themselves "engaged" but they have only known the male for a week. Some were involved with a man who has been discharged from the Navy under shady circumstances, or they were with a male who is not the father. Both enlisted women and clinicians reported high-risk sexual behavior as a contributing factor. In "tent camp," people often were caught having sex in laundry rooms and showers. One clinician said, "these kids are like rabbits; they'll do it anywhere. It's a love-fest after 8 weeks of abstinence (in boot camp)."

Whether intentional or unintentional, the enlisted women perceived negative attitudes against them when they became pregnant:

- "They look down on pregnant women, whether they are married or single."
- "People point at you and stare, make you feel like an object, they make you feel like you've done something so wrong. Females, males, your boyfriend."
- "If other people think the pregnancy was intentional, the thought can be that they are trying to get out of things."
- "No matter how hard we try to not look like a slacker, they give you a hard time. But you can't do much (work) when you're pregnant."

Three main recommendations were made concerning how to reduce unintentional pregnancy in the Navy: educating younger women about pregnancy, educating their partners, and replacing the incentives with disincentives. Besides general family planning advice, many of the suggestions for messages for the enlisted women involved informing women of the demands of pregnancy. Participants advised that enlisted women "need to plan" and "need to wait" because women will go through many changes in their early twenties and in the Navy, and many young women end up getting divorced. The participants also warned about the difficulty of having children when in the Navy, where there can be a lot of separation from family when deployed. Those who were single will have more difficulties: "You have to do everything, and it's hard to find a babysitter."

To those who may be using pregnancy as a way to get discharged, one participant would say, "It used to be easy to get out of the Navy if you became pregnant, but it is not so easy anymore." The participants recommended providing similar education to males in the Navy, regarding family planning and responsibility. One enlisted woman participant said, "They need to teach men they are responsible, they could be a daddy. Society doesn't make them feel responsible."

The clinicians group had an extended discussion concerning incentives and disincentives. They thought incentives should be instituted for avoiding pregnancy (such as allowing non-pregnant women to move out of the barracks), and disincentives for becoming pregnant (time in pregnancy and on maternity leave not counted toward military service; pregnant woman and father could be discharged). Barriers to these disincentives included the cost of paternity tests and the inability to punish fathers would lead to charges of discrimination.

Contraception

In one group, concerns about getting birth control (i.e., getting oral contraception prescription refilled) was seen as a key worry of young enlisted women. Another participant said that women should worry about contraception and taking care of their bodies because male partners did not care.

Getting on birth control and "waiting" were important for reducing pregnancy among women in the Navy. Someone in each of the groups said that most enlisted women knew how to avoid pregnancy through use of contraception. One said, "If you don't want to get pregnant, you can avoid it." Contraception was easy to obtain in the Navy, even when deployed. Even women in boot camp were given a lot of prescriptions, according to one clinician. Participants mentioned oral contraceptives and DepoProvera ("the shot") as two of the most common methods of birth control used by Navy enlisted women. Other methods mentioned included condoms, Norplant, and the "IUD" (intrauterine device). Women were unlikely to use the female condom in place of the male condom because it was not distributed for free like the male condom was. Participants in a couple of groups also mentioned abortion as a method of birth control. One single woman participant who experienced an unintentional pregnancy wanted to have a tubal ligation, but the Navy denied her the procedure. "So I can get rid of it (through an abortion), but I can't get my tubes tied to really keep it from happening again."

Despite easy accessibility, enlisted women were often not consistent users of birth control. They may quit using certain birth control methods because of the side effects, such as gaining weight and migraines when using birth control pills or DepoProvera. Also, some may not be comfortable with a method and not use it regularly. Condoms, which were readily available, were not always used because some people did not like how they felt. A woman who had the birth control pill fail, was skeptical of the effectiveness of birth control, saying, "How many forms of birth control do I have to go through before I find what's most effective?"

Enlisted women also made mistakes in using their birth control that resulted in pregnancy. For example, some women became pregnant by forgetting to take their birth control pills or the pills were not effective for some reason.

Sexually Transmitted Diseases (STDs)

Participants in the two focus groups with single enlisted women said that their peers worried about infectious diseases, especially STD and HIV infections. The concern about infectious diseases was exacerbated when they were deployed in some foreign countries with high rates of these diseases. They also may be at more chance for contracting an infection in a concentrated community, such as occurs on shipboard deployments.

Other participants said that enlisted women should be concerned about STDs but were not. They thought people should be concerned because a significant number of enlisted women engage in high risk sexual behavior and being infected can affect one's ability to work. However, many

enlisted women were away from home for the first time and "don't think it (an STD infection) will happen to them." One participant said that though people know about STDs they put themselves in situations that will place them at risk of infection. One gave the example of married people who sleeping with single people and bring the infection home to their spouse, a problem that could occur easily in the Navy because of the incidence of adultery in the Navy.

All groups of enlisted women perceived a high rate of STDs among women in the Navy. Those in the enlisted women's groups most often estimated that 70 to 80 percent of enlisted women had had an STD. These estimated STD prevalence rates were much higher than the lifetime STD prevalence rate among enlisted women reported in the 1995 *DoD Survey of Health Related Behaviors Among Military Personnel* (27.8%). When told about the prevalence rate reported in the health behavior survey, participants were skeptical of the figure, saying the rate seemed low. Participants thought that people do not always disclose that they have had an STD. In contrast, a clinician who provided reproductive health education during boot camp said that STDs and vaginal infections during boot camp were not higher than in the general population.

All groups of enlisted women recognized chlamydia and gonorrhea as common STDs among their peers. Chlamydia was perceived to be common among both males and females, but corpsman added that they perceived it to be more common among younger enlisted personnel. Clinicians mentioned human papillomavirus as another STD common among enlisted women. Clinicians were concerned that enlisted women did not know that human papillomavirus (HPV), was related to cervical cancer.

Prevention Issues/Condoms

Participants discussed empowerment education, partner communication, abstinence, and condom usage as methods to control and prevent STD infection. Empowerment issues were discussed in terms of women being aware of the risks inherent in practicing sexual behavior in general and in the Navy. In general, participants explained that women needed to know how to protect themselves against men with whom they become involved sexually. Comments included: "Females don't ask, and guys lie" and "Women should take care of their bodies, because a man won't." Several participants saw this as an important problem in the Navy, where they perceived that males were likely to be untruthful and hide their marital status. Some enlisted women were seen as having low self-esteem that led them to be dependent on a male partner. In a couple of groups of enlisted women, participants noted that women may not use contraception or STD protection if their partner did not approve. One said, "The female condom is not used much... they wait to see if men are going to use them." Another said, "Sometimes conflict can arise when one person wants to use a condom and the other doesn't."

Most participants did not think male and female were likely to discuss STDs with each other. However, they did see that it could be useful. One said, "You get to see each other's views." Getting to know a partner was considered one way to make communication less difficult. One woman advised, "Ask questions, don't be embarrassed, don't assume. Don't be ashamed to ask questions."

Participants thought that enlisted women practiced abstinence and used condoms to protect themselves from STDs. Abstinence was not discussed at length except in terms of enlisted women needing to protect themselves and needing to "wait." Participants thought that women should use condoms, but they recognized that some barriers existed. For example, women or their partners may think that condoms were uncomfortable or did not feel good. As mentioned above, some couples may disagree over whether or not to use a condom. Some people may need to learn to use condoms, and condoms could break if used improperly. Participants did not consider access to condoms a problem because they were readily available in the health clinics from providers and on shipboard in dispensers. One participant in the corpsman group thought that availability of condoms might encourage people to have sex by implying that they have permission. She also thought enlisted personnel should have to go see a doctor to get free condoms. Others disagreed, saying that making condoms available for STD protection is too important.

Participants in every group thought that people would take more precautions if they were sensitized to the severity of STD infections, and they believed graphic visuals were important to show people the consequences of these diseases. Comments included, "Maybe it'll make people think twice about sleeping around," and "It will scare off people from having sex."

Treatment Issues

According to a few participants in each group, STD screening was provided to all enlisted during basic training. While HIV screening is done every 6 months, women had to request screening for other STDs at subsequent exams. Clinicians added that STD screening was done if a woman's sexual practices history indicated that she was at risk for contracting an STD. However, the clinicians said that this history was not taken routinely, so women who needed screening often went undetected. Several enlisted women in the groups were surprised to hear that they had to request cultures if they themselves suspected they had problems. One woman said, "Women would ask if they knew they had to." A few participants were aware of asymptomatic STDs and were concerned that women would not be cued to ask for screening if they had no symptoms, the women would "think they are okay." Some of the corpsman were concerned that routine tests during annual examinations, like the Pap test, were not accurate, and women should not rely on the results.

Other concerns and issues were raised concerning STD diagnosis and treatment. One concern was that some clinicians were diagnosing infections without the proper tests and prescribing incorrect treatment. One woman had been given yeast infection medication, but she did not notice the doctor doing any tests that would have shown if the infection was something else. One enlisted woman also said that she thought women needed a confidential counselor if they contracted an STD infection. STD reinfection was also a concern, because clinicians were not always able to treat the male partner, either because the partner was not in the Navy or the partner did not come to the office visit (clinicians cannot write a prescription for patients who were not present).

Health Education

In the Navy

The general consensus of participants in all focus groups was that some reproductive health education has been given to enlisted women, but it was only made available in a systematic way during boot camp. Besides lectures on reproductive health, enlisted women received medical care and contraception prescriptions—some have their first Pap test and pelvic examination during boot camp. Both clinicians and women complained that this information was inadequate, both because so much else was covered during boot camp and because follow up discussions were needed to reinforce the information. However, no briefings were required after boot camp: “The medical people give you a brief about insects and diseases common to different areas, but there are no briefings on women’s issues.” The women working in the branch installation received a recent women’s health briefing by a nurse, but only because the pregnancy rate was considered excessive. Moreover, the health briefing was deemed “discrimination” by a supervisor because it was not made available to male enlisted as well. Informal talks between female enlisted sailors may occur spontaneously or through suggestion by the command. For example, One of the older, experienced female sailors at this installation had been asked to have informal talks with younger enlisted women, in which she explained the effects of different birth control options. These talks could not be mandatory requirements; women could only be invited on a voluntary basis. All the enlisted women agreed that such women’s health classes (“open discussions”) should be given on a regular basis.

Participants said that information on condoms, STDs, and birth control was available at Navy hospitals and clinics, often in the form of pamphlets. The women in the branch installation reported that they obtained this information and other health counseling at a nearby Army installation. While participants in each of the groups supported having written material available, the clinicians explained that they had to buy materials out of their budgets, and they were often unable to afford many. Others complained that the classes and written information that was available was inadequate, containing information women already knew.

The clinicians reported several different women’s health education programs that they or their peers had conducted. These included open discussions, “baby wannabes” (activity in which women learn about the demands of caring for a baby by caring for a doll), and a baby budget. Several clinicians said that preventive medicine clinics had programs and they distributed condoms and pamphlets, so the clinicians recommended that doctors send enlisted personnel to these clinics for health educations. Clinicians also said that many health education programs tended to be decentralized and were provided at smaller installations. They said that smaller installations tended to do more education because staff had more time and money, and larger bases had too many different foci. However, finding out about these programs was difficult and usually occurred through word of mouth.

Most participants were favorable about computer-assisted instruction for women’s health, because younger enlisted people would be interested. Across groups, Internet-based education was perceived as useful because it would be interesting, anonymous, and accessible to those in

secluded areas. While some participants had heard of computer- and Internet-based health education in the Navy, it was not prevalent, partly because of limited access to computers among enlisted women. Enlisted women in one group said they had not used computer software for health, but they had used the Internet. They were aware of free Internet access at the library in the Yorktown installation. As for computer-based applications, clinicians mentioned applications such as the Virtual Navy Hospital CD-ROM, the Breast Cancer Awareness CD-ROM, and kiosk-based applications in neurosurgery. However, the clinicians said that these were not used much despite a large amount of money spent to develop them. One of the participants in the clinician group was seen as an innovator by his peers for having set up a computer station for health education programs, but he saw few sailors use it. The clinicians said that computer availability was important, either in libraries, on shipboard, or in a clinic. The clinicians were concerned about ensuring privacy, whether all enlisted would know how to use the computer, and whether computer-based materials would reach the at-risk population. In other words, people going to the library and using computers there may not be the population in most need of health education.

Both clinicians and enlisted women said that enlisted women were more likely to consider experienced peers as credible sources of information than health care providers, commanders, or civilians. While older peers have relevant life experiences, many doctors were perceived as being young and inexperienced and not as believed. One clinician said, "Even when reports from peers are counter to doctors' orders, they will act on the word of peers not doctors."

Health Education Needs

Several comments from focus group participants suggested that the system for disseminating information on services and resources available to enlisted women was uneven. Participants indicated that there was sufficient information about equipment and supplies available to help enlisted women maintain their reproductive health, particularly in the field. However, less information and support was available for health care and health education. In the focus groups, more experienced sailors and clinicians described the need for women to request screening services, and other participants were not aware of this need.

Another concern that was brought up by participants in the group of health care providers was the need for reproductive health education throughout one's Navy career, from basic training and afterward. One enlisted woman thought the information given in basic training could be improved: "They teach you a lot of useless information in boot camp. They could spend a lot more time on how to take care of yourself." After basic training, health education needs to be repeated concerning hygiene, sex education, condoms, and other reproductive health issues. Participants suggested repeating this training when women were checking into a command and while sailors on shipboard. Several clinicians and corpsman agreed that follow-up education will require support from the supervisors, commanders, and policy. For example, one clinician said that, to bring health education to the ships, one would "need cooperation with bosses on the line." To conduct innovative health education programs, one would need "cooperation from line." One clinician said, "Nothing's going to get accomplished without follow-up after boot camp. Follow

up with someone who knows them is impossible, so something more system-wide is necessary." Another clinician said that getting support may be difficult because the command was "concentrating on the short-term tasks, not long-term picture."

After discussing health education programming for sailors, some of the clinicians mentioned others that needed education so that enlisted women's needs were met, particularly supervisors and clinicians. The supervisors need to be educated about the importance of women's health education for reaching long-term objectives so that they will make it a priority and allow women to participate.

Health care providers also need to be educated about the needs of female enlisted patients. General Medical Officers (GMO's) may have little clinical experience and may not want to provide reproductive health care, so they were not prepared to provide adequate care or education to women. The clinicians recommended that health care providers learn how to educate patients about health examinations rather than waiting for patients to ask for the care they need. Besides being educated on what to tell women, health care providers need education on communication skills so they can improve their interactions with patients. One clinician explained, "Providers have to break the ice with enlisted women or wives who were intimidated by officers. Somehow you've got to make them trust you and relax. This may take time, especially given the training that is programmed into them."

A key audience that has been overlooked in health education was enlisted men, according to both enlisted women and clinicians. Although men and women both get wellness training at boot camp, they need further education so they were aware of their responsibilities; were able to protect themselves against health risks, like STDs; and were aware of women's health issues and appreciated "what women go through." Including men was seen as important because society does not make them feel responsible, especially concerning pregnancy. The participants thought that men and women needed to hear the same messages. Participants also suggested having discussions in which men and women discussed issues together so that openness was encouraged rather than reinforcing the barriers between men and women. These sessions may need to be mandatory because men did not come to voluntary health education sessions like women did.

The last issue raised concerning health education was the matter of evaluation. Through the discussion of existing health education programs, one clinician suggested the need to test educational material on a segment of the enlisted female population over a 6-month period. Based on the results, the program could be refined then disseminated to other sites.

Responses to Written Material

Focus group participants were asked to review two handouts produced specifically to provide reproductive health information to enlisted women. One was a newsletter produced by the Naval Medical Clinic in New Orleans in 1996. The other handout was the publication "Staying Healthy in Deployment: A Female Soldier's Guide" produced by the U.S. Army Center for Health

Promotion and Preventive Medicine and the U.S. Army Research Institute of Environmental Medicine in October, 1996 (see Appendix E for copies of these handouts). Enlisted women and clinicians responded that they had not seen any of these materials before. They also thought that the handouts were more comprehensive than other reproductive health education materials they had seen to date.

Several participants thought the longer resource guide was helpful and better than fact sheets because it had more detail. Other enlisted women thought their peers would like both types of materials, because the longer package is more detailed and covers everything, and the short guide provides basic information in a concise manner. One participant said, "More detail is good but plain information is necessary, too."

The focus group participants offered suggestions for how to improve these materials. They recommended adding:

- Statistics on risk behavior;
- Information on what to bring during deployment and emergency contraception;
- Symptom-based information;
- Personalized information; and
- Pictures (though some said pictures were not necessary).

The participants in several groups thought this information should be made widely available to enlisted Navy women. The written materials could be handed out in the beginning of one's Navy career, mailed to every woman, or included in the Blue Jacket Manual (a resource guide they received in boot camp).

Conclusions

Most focus group participants at Naval Station Norfolk agreed that there is an unmet need for basic reproductive health education for enlisted women. Education on preventive health is especially critical because of the high value placed on fitness in the military. Participants in the focus groups of enlisted women and their military health care providers agreed that several gaps exist in the education sailors receive on STD and pregnancy prevention as well as ways to maintain hygiene and prevent genitourinary infections.

Education is needed to prevent pregnancies that interfere with the mission of all sailors. However, because so many incentives and other factors exist that put enlisted women at greater risk for mistimed pregnancies, effective pregnancy-prevention education may be difficult. Focus group participants agreed that the most effective approach may be to emphasize the demands of parenthood, particularly in the military, to both females and males.

Basic education on contraception is also needed to help enlisted women prevent unwanted pregnancies. Contraception is widely available in the Navy, but contraceptive information needs

to be more accessible outside of the clinical visit and pamphlets. Enlisted women need to know about their contraceptive options, the risks and benefits of each option, how to obtain the contraception they need, and how to deal with the potential side effects of contraceptives.

Navy women were concerned about vaginal infections because they were acute conditions that were uncomfortable. According to focus group participants, enlisted women were frequently unable to practice good hygiene in the field (in countries with poor facilities) and on shipboard. Working and living in close quarters in tent camp and on the ship decreases women's access to the resources they need to maintain good feminine hygiene (e.g. time, privacy, materials). According to the enlisted women and clinicians, information on normal discharge and how to practice good hygiene in general and in the in a military environment was needed. However, treatment was readily available on base and during deployments.

Sexually transmitted disease (STD) was clearly a major concern in the Navy. Participants in enlisted women focus groups estimated the prevalence of STD infection among enlisted women to be much higher than recent data have shown. Participants in all focus groups were aware of many STDs common among enlisted women. All groups mentioned that chlamydia was common among enlisted women. Interestingly, the one STD enlisted women failed to mention was HPV. Conversely, clinicians were concerned that HPV infection was prevalent and that women were unaware of its relationship to cervical cancer.

Clinicians and enlisted women in the focus groups agreed that most enlisted women were not sufficiently concerned about STD infection. In particular, young and inexperienced enlisted women reportedly were likely to engage in high-risk sexual behaviors because of their ignorance of the risks and consequences of STDs other than HIV (for which all sailors are tested). Navy women experienced unique STD risk factors: deployment in foreign countries with high STD rates and the perceived high rates of multiple sexual partners and adultery among Navy personnel.

Because routine STD screening was not provided, enlisted women need to be made aware that they need to request such testing if they think they have been exposed. Although an awareness of STD signs and symptoms may cue them to the need for screening, they need to understand asymptomatic STD infection so they base the need for screening on their behavior. Comments across focus groups also suggested that use of condoms by enlisted women could be improved, perhaps due to lack of confidence with partners and lack of condom use skills. Ready and confidential access to condoms in the Navy appears common.

During discussions of all focus group topics (pregnancy, STDs, hygiene and genitourinary infections) participants repeatedly brought up issues of health care delivery in the military. However, several barriers to enlisted women receiving preventive care and treatment were described by focus group participants. These barriers included:

- ▶ Lack of confidence in the quality of medical care because of the dependence on independent duty corpsmen (IDCs) and PAs as well as the use of facilities where they were likely to see clinicians who were being trained.

- ▶ Lack of access to health care providers with training in women's health issues.
- ▶ Lack of confidentiality of personal medical information.
- ▶ Lack of continuity in care because a different clinician is seen each time.
- ▶ Poor patient/provider communication due to embarrassment or discomfort on the part of the women and lack of time and support staff on the part of clinicians.

According to focus group participants, many of the barriers to obtaining health care in the military also interfere with enlisted women obtaining information they need to protect their reproductive health. Participants report that little time is allotted for educating sailors about their reproductive health—they generally receive a class in basic training. The clinicians who many women usually saw were in Sick Call and tended to be IDCs or PAs, and they had little knowledge or training in reproductive health care. Clinicians in the hospital and specialty clinics (family practice and OB/GYN) reported that they often did not have time for education. Further, focus group participants reported that most enlisted women do not follow the recommendations of clinicians or commanders concerning their reproductive health. They were more likely to rely on peers to make decisions that affect their reproductive health.

Overall, findings from the Norfolk area focus groups indicated that enlisted women would benefit from a computer-based reproductive health education intervention, provided it could be made accessible to all sailors. Internet-based methods may be more accessible in the long term as more access points were made available to seamen on installations, in Navy clinics, and on shipboard. Few participants were aware of computer-based materials for reproductive health education, except for one clinician who had an interest in it. Findings from the focus groups also indicated that enlisted women need a mechanism for obtaining reproductive health information that was current and tailored to their situation, and computer-assisted instruction was a useful method to provide such information.

Reproductive health education was only made available to enlisted Navy women in a systematic way during basic training. Later educational sessions were seen as crucial to reinforce health messages and promote responsible behavior, but such efforts were not yet supported by line commanders. Preventive health clinics have materials and provide education, but most other health education efforts were decentralized and available in smaller installations with more staff and resources. Clinicians recommended finding out about these programs and materials in order to reduce redundancy of effort and to take advantage of what others had learned before.

Participants in the clinician's focus groups also emphasized that command support was critical to making any health education intervention available to enlisted women. Women's health programs were sometimes stopped by commanders who saw them as discriminatory because they were not provided to males as well. However, most participants supported reproductive health education directed at both men and women. In addition, education to raise the awareness of line supervisors and clinicians, particularly IDCs and GMOs, would enable enlisted women to get the health care and health education they needed.

Recommendations

Below is a detailed list of recommendations for developing interactive, computer-based materials to educate enlisted women about their reproductive health. Recommendations were either offered by focus group participants or developed based on comments made by focus group participants. The first set of recommendations deals with content for the intervention. The second set of recommendations deals with the delivery of the intervention. This section concludes with a list of questions that should be addressed by the intervention.

Content

General format

- ▶ Use a variety of formats to convey information so that it appeals to a broad range of users. Include video, graphics, statistics, models, and scenarios.
- ▶ Some mechanism for tracking the number or type of users (even which modules were used) should be included for evaluating the educational intervention and reporting on its utility.
- ▶ If possible, the educational intervention should be extended to or adapted for male sailors, commanders of enlisted women (officers), and military health care providers. Information for males would raise awareness of the risks and issues women confront in their reproductive health.
- ▶ It would be useful to include content that can be tailored to the user based on service, age, job, marital status, ethnicity, etc.
- ▶ Military terminology should be used in writing the content.
- ▶ Repurpose when possible information, videos, and graphics already available from military sources.
- ▶ Because of the limited access most enlisted personnel have to computers, creating a program that could produce brochures or slides, or be adapted to a videotape format would be useful. Women want something they can take home.
- ▶ Content should be available in both a shortened version and in a longer resource guide.
- ▶ The content should be focused and interactive to keep the attention of the target population.
- ▶ Provide a website for those who have access to the Internet.
- ▶ Include resource information and contact numbers where they can obtain confidential health counseling or information.
- ▶ Provide behavioral modeling and testimonials by experienced peers (enlisted females). Vignettes should be entertaining and practical.
- ▶ Present information in lay terms, preferably at sixth grade reading level.

General women's health content

- ▶ Include information on basic female physiology and menstruation, including how to recognize what is normal discharge.
- ▶ Include basic education on recognizing symptoms of UTIs, vaginal infections, STDs, and

pregnancy; and on how to react to those symptoms.

- ▶ Provide information on responsible behavior.
- ▶ Give general information on how to stay healthy through adequate rest and nutrition.
- ▶ Instruct women on how to ask about diagnoses and treatment options.
- ▶ Emphasize the importance of the annual "well woman" exam.
- ▶ Include a directory of information resources for enlisted women to find out how to deal with their unique reproductive health concerns.
- ▶ Deal with concerns about confidentiality of treatment.
- ▶ Provide practical suggestions for preventing STDs and pregnancy that go beyond contraception (e.g. communication, safe dating practices, etc.).
- ▶ Provide general information about military health care, including what is covered.
- ▶ Provide guidelines on what an enlisted women's rights and responsibilities are as a patient.
- ▶ Include guidelines on how and when to seek medical care. Emphasize importance of seeking help when one has a problem
- ▶ Explain the well woman examination and the importance of having one annually. Explain how and when a Pap test is done.
- ▶ Promote being an active health consumer. Instruct women on how to ask questions and the importance of being honest with health care providers. Provide scenarios on communicating with health care providers.
- ▶ Provide information on when to follow up with care providers concerning tests.

Specific pregnancy and contraception content

- ▶ Include a section on birth control alternatives, their effectiveness, risks, benefits, and side effects. Dispel myths and misconceptions.
- ▶ Educate women about how to avoid contraceptive failure.
- ▶ Provide information about obtaining contraception and ensuring adequate supplies prior to and during deployments.
- ▶ Include information on emergency contraception.
- ▶ Promote importance of family planning, including the importance of preconception care if one decides to become pregnant.
- ▶ Include information on the difficulties and demands of being a mother in the Navy, particularly for single women.
- ▶ Provide the policies on being discharged and avoiding deployment for enlisted women who become pregnant.
- ▶ Include instruction on normal vs. abnormal pregnancy and how to treat.
- ▶ Include information on the financial costs of raising a child (baby budget).

Hygiene and genitourinary infection content

- ▶ Explain the difference between yeast and other vaginal infections.
- ▶ Provide tips (perhaps from experienced sailors, health care providers, and commanders) for maintaining personal hygiene on base and in the field (i.e., boot camp, shipboard, and "tent camp" in countries like Turkey).
- ▶ Recommend items, medications, etc., to bring during deployments.
- ▶ Inform women how to obtain treatment when in the field.

STD infection content

- ▶ Promote abstinence and STD prevention methods and provide information about how to practice each.
- ▶ Inform women about the symptoms of STD infection as well as the likelihood of asymptomatic STDs. Provide symptom-based information so women will have something to which they can relate.
- ▶ Let women know the importance of discussing sex and condoms with partners. They should be made aware that not all sexual partners will be honest about having had an STD infection or about their sexual risk behavior in general.
- ▶ Promote and demonstrate proper condom use for STD prevention.
- ▶ Inform women how to obtain condoms on base, in the field, and on shipboard.
- ▶ Educate women about the link between HPV infection and abnormal Pap tests.
- ▶ Provide information about what they can expect in STD screening, diagnosis, and treatment. Advise them how to request testing if they think they have been infected.
- ▶ Provide education about how reinfection and the importance of having sexual partners receive treatment.
- ▶ Provide information and scenarios on partner communication skills. Include negotiation skills.

Delivery

Who?

- ▶ Enlisted women may be more responsive to reproductive health information delivered by a friend or peer rather than a health care provider.
- ▶ Small group leaders may be the best people to deliver reproductive health education, but they need to learn how to deliver the education without judging or lecturing.

When?

- ▶ Educate sailors as early as possible. Provide reproductive health education during basic training.
- ▶ Reproductive self-care and prevention education should be provided at several points through a woman's Navy career by a team of trained individuals who work closely with enlisted women.

Where?

- ▶ Many enlisted personnel do not have regular access to a computer. Therefore, a computer should either be set up at the clinic or the CD-ROM should be installed in the library. At the library, women could sign out the CD-ROM.
- ▶ The education should be available on the ships.

How (what will it take to deliver?)

- ▶ Education and support of the chain of command is critical to implementing any reproductive health education intervention for enlisted women.

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Focus Group Report for Naval Medical Center Norfolk

Appendices

Appendix A: Enlisted Women's Screener

Participant Screeners for Focus Groups on Enlisted Navy Women's Reproductive Health (Enlisted Women)

Recruiting Goals

- ▶ The participants shall be enlisted Navy women.
- ▶ Twelve married, enlisted Navy women will be recruited for the first group. (The final group will include 8 to 9 participants but over recruiting is necessary to allow for attrition).
- ▶ Twelve single, enlisted Navy women will be recruited for the second group. (The final group will include 8 to 9 participants but over recruiting is necessary to allow for attrition).
- ▶ Each group shall have a mix of races/ethnicities reflective of the Navy enlisted female population. In order to be representative of the female enlisted Navy population, at least half of the participants in each group should be white. Approximately one third of the participants should be African American. At least one Hispanic woman should also participate in each focus group.
- ▶ Officers will be excluded.

Scheduling

The schedule for the focus groups follows:

December, 1998

Site: Naval Medical Center Portsmouth

9 participants each group.

- ▶ The identity of the participants will remain confidential.

Appendix A: Clinician Screener

Participant Screeners for Focus Groups on Enlisted Women's Reproductive Health (Navy health care providers)

Recruiting Goals

- ▶ The participants shall be physicians, nurse practitioners, and other medical personnel in the Navy, who provide reproductive health care services to enlisted Navy women.

Scheduling

The schedule for the focus groups follows:

December, 1998

Site: Naval Medical Center Portsmouth

9 participants each group.

- ▶ The identity of the participants will remain confidential.

Appendix C: Moderator=s guide for focus groups with enlisted women

Focus Group Questions: Enlisted Navy Women

Introduction:

Hello, my name is _____. Thank you for participating in this focus group today. A focus group is a group discussion where several participants explore a topic. I will be moderating this focus group, and _____ (name of recorder) will be taking notes and recording the discussion.

We are here from Macro International, which has been contracted by the U.S. Army to conduct a 4-year research project to investigate enlisted women=s needs for health education on basic gynecological and reproductive health issues. We are conducting surveys and focus groups like this one to determine the needs of enlisted women. Based on that information, we plan to develop and test educational materials with enlisted Army and Navy women. This study is important because the number of women in the U.S. Armed Forces is increasing, and statistics show that the rate of unintended pregnancies, sexually transmitted diseases (STDs), and common preventable gynecological conditions, such as vaginitis, among enlisted women deserve attention.

The purpose of this focus group is to gather information that will help in designing the educational materials. This information is being gathered from enlisted Army and Navy women at four bases in the United States. During the group, we will be discussing reproductive health issues, military health care, and health education in the military. I will ask you about your perceptions of the attitudes, behaviors, and preferences of enlisted Navy women in general. At no time will you be asked about your own behavior. The focus group should take about an hour and a half.

This study is anonymous, so your name or any other identifying information will not be included in the report. We also ask that you come up with a fake name to be used during our discussion. That way, no one will be able to connect anything said here with any particular individual. All information that you provide will be kept confidential. Your participation is voluntary, and you may decide to stop at any time. If you decide to stop you will not be penalized in any way. If you have any questions or don't understand what I am asking at any time, please let me know and I will explain further.

The most important thing is to be straightforward and honest. We are interested in your opinions, and different opinions are welcomed. There are no right or wrong answers. We understand that talking about reproductive and gynecological issues can be uncomfortable, but please say whatever you are thinking.

I would just like to ask that you speak one at a time and that everyone participates. If you have any questions about this process, I will answer them now.

(tell them about tape recorder and/or notetaker. Give them consent form to read and sign.)

GENERAL HEALTH

How important is health to women? How do you think being an enlisted Navy sailor affects feelings about health?

What do Navy women worry about most when it comes to their health?

- What should they worry about?
- What about their reproductive health? *(Paraphrase to explain ?reproductive if needed.)*
Go to section below that was mentioned first or most often by participants.

HEALTH CARE

How do enlisted women feel about health care in the Navy?

Where do most enlisted Navy women get gynecological care?

- Why? *(If respondent says private physician, probe Why not military?)*

What types of questions do Navy women ask their health care providers?

- What should they ask?
- Why don't they ask these questions?
- Are the questions that Navy women ask military health care providers different from those they ask civilian health care providers?

What are the reasons women do not to get an annual Pap test?

- What would make it easier?

What types of health services and/or counseling do Navy women typically get before deployment?

- What services should they get?

How common is it for women to get a physical before deployment? How about a Pap and pelvic exam?

- When is it important for a woman to get a predeployment gynecological exam?
- What are reasons women do not get this exam before deployment?

VAGINAL INFECTIONS/HYGIENE

What do most Navy women do when they think they have a vaginal infection?

What do most Navy women do to prevent vaginal infections?

- Are there any reasons that Navy women may have trouble preventing vaginal infections

What would help Navy women to prevent vaginal infections? What would help them get appropriate treatment for vaginal infections?

What do Navy women do to prevent infections when they are in the field?

- What do they do when they think they have a vaginal infection in the field?
- What medical and hygiene supplies do Navy women pack when they are deployed?

PREGNANCY

How common do you think unintentional pregnancy is among enlisted Navy women?

How much do you think Navy women worry about getting pregnant?

- Do you think they should be more concerned? Why or why not?
- What happens to enlisted women who get pregnant in the Navy?
- Why do you think some enlisted women get pregnant in the Navy?

What should an enlisted woman do if she thinks she might be pregnant?

CONTRACEPTION

What do enlisted women need to know to better prevent unintentional pregnancy?

What are the ways that Navy women prevent pregnancy? How about in the field?

- What are the types of contraceptives most often used by Navy women? Why?
- What types of contraception are used in the field? *(If different from general types, probe to find out why.)*

How hard is it to get contraception when you need it in the Navy?

- What makes it hard to get?
- What could make it easier?

How hard is it to get contraception in the field?

- What makes it hard to get?
- What could make it easier?

What do enlisted women need to know to use contraception consistently and effectively?

SEXUALLY TRANSMITTED DISEASES

What STDs do you think are most common among women?

Repeat with each STD indicated:

- How much do you think Navy women worry about getting _____?
- Do you think they should be more concerned? Why or why not?
- What are some of the things that can happen to a woman who gets this STD?

What percent of Navy women do you think have STDs?

- A 1995 survey says that 26.2% of Navy women reported having had an STD.
- How do you feel about this information? Does it seem high or low to you? Why?

What are some ways that women protect themselves from STDs?

- Why don't some women do these things?

What do enlisted women need to know to better protect themselves from STDs?

CONDOM USAGE

What do you think most sexually active women in the Navy think about using condoms?

- How about their partners?
- What do their health care providers tell them?
- What other messages do they get about condom use?

When should a woman use a condom?

- Does it depend on other contraception she is using? Does it depend on her partner?
Something else?

What makes it hard to use condoms every time?

- What would make it easier?

SEXUAL COMMUNICATION

We know that people who are able to talk with their sexual partners about sex and condoms are more likely to practice safe sex.

- Why do you think this is so?

What makes talking about these issues with partners difficult for women? Why?

- What would make it easier?

What do you think are the costs, or risks, of talking about sex with a partner (e.g., condoms, sexual history)? What would be the benefits?

HEALTH EDUCATION

What kinds of health education are available in the Navy? How about reproductive health or women's health?

- How helpful was it? Why?

What reproductive health topics do you think enlisted Navy women **need** to know more about?

- Why?
- Is this different from what they **want** to know more about?

How can enlisted Navy women find out about these topics now?

- Where do they go? Who do they usually talk to?

We want to teach enlisted women about prevention and self-care.

Imagine that you were put in charge of getting information on reproductive health to all women at your base. What do you think would be the best way to get this information to enlisted women?

- What would be the most effective way to present it?
- What would help them learn more about self-care and prevention?

What could the Navy do to get health information to all enlisted women in the Navy?

If we made a computer program about prevention and self-care, what are some things that would make enlisted women interested in using it?

Have you ever used a computer to learn about health (e.g. via the Internet, in classrooms, etc.?)
Would you recommend it to other women? Why or why not?

- What would you change?

What skills would women like you like to see demonstrated on a computer program?

Give a couple of examples: How to use condoms correctly? How to talk to a partner about sexual matters? How to practice proper hygiene in the field?

What kinds of scenarios, or stories, would enlisted Navy women like to see in this program?

- What would be realistic?

Where would enlisted Navy women want to use a program like this?

- *Probe if unresponsive: Health center/clinic? Computer laboratory? Kiosk? Other place?*

What other materials or education would help enlisted women improve their self-care and preventive behaviors?

If we make a pocket field guide that summarizes prevention and self-care information, what would be helpful to include in it? What should it look like?

How could the Navy ensure that every active duty women received a pocket field guide?

Appendix D: Moderator=s guide for focus groups with Navy health care providers

Focus Group Questions: Military Clinicians Serving Navy Women

Introduction:

Hello, my name is _____. Thank you for participating in this focus group today. A focus group is a group discussion where several participants explore a topic. I will be moderating this focus group, and _____(name of recorder) will be taking notes and recording the discussion.

We are here from Macro International, which has been contracted by the U.S. Army to conduct a 4-year research project to investigate enlisted women=s needs for health education on basic gynecological and reproductive health issues. We are conducting surveys and focus groups like this one to determine the needs of enlisted women. Based on that information, we plan to develop and test educational materials with enlisted Army and Navy women. This study is important because the number of women in the U.S. Armed Forces is increasing, and statistics show that the rate of unintended pregnancies, sexually transmitted diseases (STDs), and common preventable gynecological conditions, such as vaginitis, among enlisted women deserve attention.

The purpose of this focus group is to gather information that will help in designing the educational materials. This information is being gathered from military clinicians at four bases in the United States. During the group, we will be discussing health and issues of concern to enlisted Navy women including reproductive health issues, military health care, and health education in the military. I will asking you about your perceptions of the attitudes, behaviors, and preferences of enlisted Navy women and their clinicians in general. At no time will you be asked about your own behavior. The focus group should take about an hour and a half.

This study is anonymous, so your name or any other identifying information will not be included in the report. We also ask that you come up with a fake name to be used during our discussion. That way, no one will be able to connect anything said here with any particular individual. All information that you provide will be kept confidential. Your participation is voluntary, and you may decide to stop at any time. If you decide to stop you will not be penalized in any way. If you have any questions or don't understand what I am asking at any time, please let me know and I will explain further.

The most important thing is to be straightforward and honest. We are interested in your opinions, and different opinions are welcomed. There are no right or wrong answers. We understand that talking about reproductive and gynecological issues can be uncomfortable, but please say whatever you are thinking.

I would just like to ask that you speak one at a time and that everyone participates. If you have any questions about this process, I will answer them now.

(tell them about tape recorder and/or notetaker. Give them consent form to read and sign.)

GENERAL HEALTH

How important do you think health is to enlisted women in the Navy? Why do you think this?
How do you think being an enlisted Navy sailor affects enlisted women=s feelings about health?

What do Navy women worry about most when it comes to their health?

- What should they worry more about?
- What about their reproductive health?

HEALTH CARE

In general, how do you think enlisted women feel about health care in the Navy?

What do Navy women have a right to expect from their health care providers?

How comfortable do you think most women feel talking to their health care provider? *(Give examples: talking about STDs, condom use, sexual dysfunction.)*

- What makes them more or less comfortable?

How comfortable are health care providers in talking about these matters with patients?

What types of questions do Navy women ask their health care providers?

- What should they ask?

What types of questions do health care providers ask enlisted women about their reproductive health (i.e., sexual practices history)?

- What should they ask?

What types of reproductive health screening and/or counseling are typically provided to enlisted Navy women?

- What should be provided (that isn=t currently)?

What types of health services and/or counseling do Navy women typically get before deployment?

- What about pregnancy testing?

How common is it for women to get a physical before deployment? How about a Pap and pelvic exam?

- When is it important for a woman to get a predeployment gynecological exam?
- What are reasons women do not get this exam before deployment?

What types of health services and/or counseling do Navy women typically receive in the field?

- What health services or counseling should they receive in the field?

VAGINAL INFECTIONS/HYGIENE

How common do you think vaginal infections are among enlisted women in the Navy? How do you think being an enlisted Navy sailor affects enlisted women's risk for vaginal infection?

What do most Navy women do to prevent vaginal infections?

- How about in the field?

What medical and hygiene supplies do Navy women pack when they are deployed?

- What should they pack?

How should health care providers prepare for the hygiene needs of enlisted women in the field?

- What supplies should health care providers make sure are available to enlisted women?

What would help them get appropriate treatment for vaginal infections?

- Again, what do they do differently in the field?

PREGNANCY

How common is unintentional pregnancy among enlisted Navy women? How do you think this compares to civilian women?

How much do you think Navy women worry about getting pregnant?

- Do you think they should be more concerned? Why or why not? (*Prompt: What happens to enlisted women who get pregnant in the Navy?*)
- Why do you think some enlisted women get pregnant in the Navy?

What would help Navy women avoid unintended pregnancies?

- What can their health care providers do to help?

CONTRACEPTION

What are the types of contraceptives most often used by Navy women? Why?

What type of counseling/education about contraception do health care providers give enlisted women? When?

- How could they do this more effectively?

How hard is it for enlisted to get contraception when they you need it?

- What makes it hard to get? What could make it easier?

What do enlisted women need to know to use contraception consistently and effectively?

- What else do enlisted women need to know to better prevent unintentional pregnancy?

How do most Navy women prevent pregnancy when they are in the field?

How hard is it for enlisted women to get contraception in the field?

- What makes it hard to get? What could make it easier?

What should health care providers do to address the contraceptive needs of enlisted women in the field?

SEXUALLY TRANSMITTED DISEASES/CONDOM USE

Let's talk a little about STDs. What STDs do you think are most common among Navy women?

How much do you think Navy women worry about STDs?

- Do you think they should be more concerned? Why or why not?

What percent of Navy women do you think have STDs?

- A 1995 survey says that 26.2% of Navy women reported having had a STD.

- How do you feel about this information? Does it seem high or low to you? Why?

What do enlisted women need to know to better protect themselves from STDs?

- What about condoms? What do they need to know?
- What do they think about using condoms? What about their partners?

Should health care providers be responsible for giving STD prevention information to enlisted women?

- How should health care providers promote condom use among enlisted women?

HEALTH EDUCATION

Let's talk more about health education in the Navy. What kinds of health education are available? How about reproductive health or women's health?

- How adequate is the health education that enlisted women receive? Why do you think this is?

What reproductive health topics do you think enlisted Navy women **need** to know more about?

- Why? Is this different from what they **want** to know more about?

How can Navy women find out about these topics now? How do they?

- Where do they go? Who do they usually talk to?

We are developing a reproductive health intervention to teach enlisted women about prevention and self-care.

Imagine that you were put in charge of getting information on reproductive health to all women at your base. What do you think would be the best way to do this?

- What would be the most effective way to present it?
- What would help them learn more about self-care and prevention? What content?

What could the Navy do to get health information to all enlisted women in the Navy?

If we made a computer program about prevention and self-care, what are some things that would make enlisted women interested in using it?

- What would it look like?

What skills would enlisted women benefit from seeing demonstrated on a computer program?

Give a couple of examples: How to use condoms correctly? How to talk to a partner about sexual matters? How to practice proper hygiene in the field?

What kinds of dramatic stories do you think would be useful for enlisted Navy women to see in this program? What are some realistic scenarios?

Where would enlisted Navy women use a program like this?

Have you ever used a computer to teach about health (e.g. via the Internet, in classrooms, etc.)?

Would you recommend it to other clinicians?

- Why or why not?

What are some things that would make clinicians interested in using computer-based education with patients? Does being a military clinician affect the willingness or interest in using computer materials with patients?

What other materials or education would help enlisted women improve their self-care and preventive behaviors?

If we make a pocket field guide that summarizes prevention and self-care information, what would be helpful to include in it? What should it look like?

How could the Navy ensure that every active duty women received a pocket field guide?

APPENDIX D

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Report of Military Clinician and Chief of Service Needs Assessment Surveys

September 1999

July 1999

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Introduction

The study entitled "CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Enlisted Army and Navy Women" was funded as part of the Defense Women's Health Initiative. The overall purpose of the study is to investigate enlisted women's needs for basic gynecological and reproductive health education, as evidenced by a needs assessment process to be conducted with military health care providers and enlisted women themselves. Based on the results of the needs assessment, a culturally sensitive, multimedia CD-ROM and accompanying materials will be tested in an Army and Navy medical clinic in conjunction with annual Pap screenings.

A needs assessment survey study was conducted with clinicians and chiefs of service in the U.S. Army and U.S. Navy to determine the factors that contribute to the reproductive health problems among enlisted women in the Army and Navy. Results were focused on the multiple factors, both demographic and behavioral, that were related to unintentional pregnancy, STD infection, and vaginal infections.

The needs assessment surveys discussed in this report were part of a larger needs assessment study conducted for the project. As part of the needs assessment, two surveys were planned. One was with military clinicians serving the reproductive health care needs of enlisted Army and Navy women. The other survey was conducted with chiefs of service who head health service departments charged with serving the reproductive health needs of enlisted Army and Navy women (depending on each medical facility, these medical departments may include obstetrics/gynecology, family practice, and/or sick call/troop medical clinic/branch medical clinic).

Technical objectives of the needs assessment surveys that relate to the overall needs assessment were:

- 1) To assess the most pressing reproductive and gynecological self-care education needs of enlisted women on base and in the field.
- 2) To assess the current health education efforts for enlisted women.

Methods

Instrumentation

The purpose of the needs assessment surveys was unique in that they sought to obtain information that would allow tailoring of information in an educational application focused on a particular aspect of enlisted women's health. Further, the surveys were also designed to complement qualitative data gathering for the same purpose. Therefore, obtaining data from existing datasets or reports was not possible.

As a result, data collection instruments were created to examine the attitudes and practices of military clinicians (see Appendix A) and chiefs of service (see Appendix B) as they pertained to the reproductive health needs of enlisted women. The instruments consisted of equivalent items, but the chief of service survey had fewer questions and was formatted to appear shorter to ease ability to respond, because expert reviewers advised that chiefs often had little time to respond to surveys.

Researchers drafted instruments and submitted them for review by an expert panel of military clinicians. In addition, a retired chief of an Army obstetrics and gynecology department reviewed the chief of service survey form. Comments from these individuals were incorporated into the surveys. The surveys were then pilot tested. Nine military clinicians (a mix of nurse practitioners and physicians) completed the clinicians survey twice, and correlations revealed acceptable stability reliability. Respondents also wrote comments on the survey that facilitated further refinement of the items. Four chiefs of service completed the chiefs of service survey once and forwarded comments to the study team, and these comments were used for revision. Lastly, DoD Health Affairs and the Defense Manpower Data Center reviewed the instruments prior to giving the surveys a Report Control Symbol (RCS), allowing fielding of the survey. Several comments focused on making questions across instruments equivalent in wording and response category.

Sample

We obtained lists of military health care providers (physicians and nurse practitioners) in obstetrics and gynecology and family practice in the Army and Navy. We also obtained lists of chiefs of service in the following medical services: obstetrics and gynecology, family practice, branch medical clinic, and troop medical clinic. Random samples of 260 health care providers and 160 chiefs of service were drawn with care to obtain representative samples from the Army and Navy.

The two surveys had different populations, each which were clearly defined:

- The Clinician Survey population was stateside, active-duty military clinicians who provide reproductive health care to enlisted Army and Navy women, including physicians (in obstetrics/gynecology and family practice), and nurse practitioners (in obstetrics/gynecology and family practice).
- The Chiefs of Service Survey was directed toward those who direct the operation of stateside military medical departments or clinics that provide reproductive health care to enlisted Army and Navy women. The departments may include obstetrics and gynecology (OB/GYN), family practice, sick call, troop medical clinic (TMC), or branch medical clinic (BMC).

For the clinician survey, a probability sample was drawn using a stratified sampling technique. The sample was stratified by service (Army and Navy), with equal numbers

of participants coming from each service. The survey respondents were randomly drawn from several mailing lists from the Army and Navy obtained through the specialty leaders to the surgeons general of the Army and Navy: OB/GYN physicians, family practice physicians, OB/GYN nurse practitioners, and family practice nurse practitioners. We used proportional representation by physician and nurse practitioners. Although respondents were drawn from two professional levels and different services, we only used these variables to guarantee proportional representation but not to draw comparisons. The proposed final sample size was 260, with 130 in each cell by service.

For the chiefs of service survey, a probability sample was drawn using a stratified sampling technique. The sample was stratified by service (Army and Navy), with equal numbers of participants coming from each service. The survey respondents were randomly drawn from mailing lists from the Army and Navy chiefs of the following services: OB/GYN, family practice, sick call/TMC/BMC, with approximately one-third coming from each service type. Although respondents were drawn from different services, we only used these variables to guarantee proportional representation but not to draw comparisons.

Data Collection

The surveys were sent to those individuals drawn in the samples with a cover letter and return envelope between January and April 1999. The surveys were distributed and collected via U.S. mail. The surveys were mailed to each participant with a cover letter and postage-paid return envelope. Each respondent who chose to respond enclosed his or her survey in a personal, self-addressed, pre-stamped envelope. Surveys were marked with a unique identification number so that an individual's name and address would be removed from the sample upon receipt of his or her survey. If no response is received, a second survey was mailed. If there was still no response, a third survey was sent. After three rounds of mailings, we received 110 surveys from clinicians (response rate = 42.3%) and 105 surveys from chiefs of service (response rate = 65.6%).

Data Analysis

The data from returned surveys were entered into two SPSS spreadsheets. A third SPSS spreadsheet was created for analysis with the items that were same on the two surveys. The findings below focus on the variables that are similar across surveys with a few additional analyses from the clinicians survey.

Frequencies, crosstabs, means, and standard deviations were calculated to determine relevant percentages reporting and central tendency. As appropriate, chi-squares, t-tests, and analysis of variance were conducted to examine significance. Differences in responses between clinicians and chiefs of service were examined as well as differences between respondents in the different services.

Because of the formatting of the chiefs of service survey, some items available on the clinician survey would not fit and were, therefore, not available. As a result, significance testing on some items was not done because the results would not have been interpretable.

Results

Demographics

Out of 215 respondents, 110 were clinicians (51.2%) and 105 were chiefs of service (48.8%). Tables 1 and 2 present selected demographic, military, and medical service related characteristics of respondents. Table 3 presents selected characteristics of military clinician respondents.

Table 1: Selected Demographic Characteristics by Occupation (N=215)		
Characteristic	Clinicians N (%)	Chiefs of Service N (%)
Total N	110	105
Age		
<30	4 (3.7)	6 (5.8)
30-39	46 (42.2)	40 (38.5)
40-49	44 (40.4)	44 (42.3)
50-59	12 (11.0)	13 (12.5)
60+	2 (1.8)	1 (1.0)
Missing	1 (0.9)	1 (1.0)
Sex		
Female	41 (37.6)	38 (36.2)
Male	67 (61.5)	67 (63.8)
Missing	1 (0.9)	0 (0.0)
Race/Ethnicity		
White (non-Hispanic)	94 (86.2)	85 (81.0)
Black (non-Hispanic)	4 (3.7)	11 (10.5)
Hispanic	4 (3.7)	5 (4.8)
Asian/Pacific Islander	6 (5.5)	3 (2.9)
American Indian	6 (5.5)	0 (0.0)
Missing	1 (0.9)	1 (1.0)

The majority of respondents to both surveys were non-Hispanic whites and between the ages of 30 and 50. The mean age for chiefs was 40.9 (s.d.=7.75) and for clinicians was 40.5 (s.d.=8.21). Approximately two-thirds of the respondents were male and one-third female. There were no significant differences in these proportions by clinical role (clinician vs. chief of service) or by branch of service.

Table 2 presents medical and military service characteristics of the respondents. More Navy respondents than Army clinicians and chiefs of service responded to the surveys. Chiefs of service and clinicians differed significantly in terms of medical service where they worked and years since their medical training ended. Army and Navy respondents

also differed significantly by medical service ($\chi^2=15.56$, $p=.049$) and years since medical training ended ($\chi^2=21.94$, $p=.038$). Specifically, more Army OB/GYNs and more Naval preventive medicine practitioners responded to the survey, but proportions of those in family practice were similar. Years since medical training ended was greater on average among clinicians compared to chiefs of service.

Table 2: Selected Medical and Military Service Characteristics by Occupation (N=215)		
Characteristic	Clinicians N (%)	Chiefs of Service N (%)
Service Branch		
Army	48 (44.0)	44 (41.9)
Navy	61 (56.0)	59 (56.2)
Other	0 (0.0)	2 (1.9)
Medical Service **		
Family Practice	72 (66.1)	33 (31.4)
OB/GYN	28 (25.7)	29 (27.6)
Preventive Medicine	1 (0.9)	1 (1.0)
Active Duty Medical Clinic	1 (0.9)	25 (23.8)
Other	6 (5.5)	16 (15.2)
Missing	1 (0.9)	1 (1.0)
Years Since Medical Training Ended *		
>5	11 (10.1)	9 (8.6)
5-9	33 (30.3)	24 (22.9)
10-14	17 (15.6)	28 (26.7)
15-19	17 (15.6)	0 (0.0)
20-24	19 (17.4)	13 (12.4)
25-29	5 (4.5)	4 (3.8)
30+	6 (5.5)	6 (5.7)
Missing	1 (0.9)	21 (20.0)
Deployment Experience ***		
Never deployed	16 (14.7)	16 (15.2)
Field training	76 (69.7)	71 (67.6)
Combat duty	16 (14.7)	22 (21.0)
Humanitarian mission	32 (29.4)	32 (30.5)
Other	32 (29.4)	30 (28.6)
Training in Health Care Readiness		
Yes	91 (83.5)	83 (79.0)
No	17 (15.6)	18 (17.1)
Missing	0 (0.0)	4 (3.8)

* $p<.01$ for differences between clinicians and chiefs of service.

** $p<.001$ for differences between clinicians and chiefs of service.

*** Choices were not mutually exclusive so percentages do not add up to 100.

Deployment and readiness training are also presented in Table 2. Findings indicate most respondents had experience with field training deployments, followed by humanitarian, and "other" deployments. Only around 15 percent of respondents had never been deployed. Although no significant differences were apparent between clinicians and chiefs of service on field training deployment experience, significantly more respondents in the Army (82.4%) had been deployed for field training than Navy respondents (60.0%)

($\chi^2=19.076$, $p=.001$). Most respondents reported that they had received training in health care readiness, and there were no significant differences by medical role (clinician vs. chief) or by branch of service.

Among clinician respondents, most were physicians (N=78; 71.6%) followed by nurse practitioners (N=21; 19.3%), and nurses (N=9; 8.3%). One respondent to the clinician survey did not provide this information.

Table 3 presents training that military clinicians respondents reported having in areas related to reproductive health, including STD prevention, sexual risk assessment, contraceptive counseling, and women's health. (These questions were not included on the chiefs of service survey.) Most clinician respondents had received training in all of these areas, many in more than one setting. Medical and nursing school, residency, and continuing medical education were primary settings for receiving training in reproductive health related issues. Few respondents reported having no interest in such training opportunities.

Table 3: Reported Training Experience in Reproductive Health Related Areas Among Military Clinicians (N=110) *				
Training Experience and Interest	STD Prevention Education	Sexual Risk Assessment	Contraceptive Counseling	Women's Health
None, not interested	1 (0.9)	1 (0.9)	0 (0.0)	0 (0.0)
None, interested	5 (4.6)	6 (5.5)	2 (1.8)	1 (0.9)
Medical/nursing school	83 (76.1)	73 (67.0)	78 (71.6)	83 (76.1)
Residency	69 (63.3)	67 (61.5)	74 (67.9)	71 (65.1)
Subspecialty certification	16 (14.7)	15 (13.8)	18 (16.5)	21 (19.3)
Continuing medical education	74 (67.9)	64 (58.7)	75 (68.8)	84 (77.1)
Other	8 (7.3)	8 (7.3)	7 (6.4)	7 (6.4)

* Items were not mutually exclusive, so percentages do not add up to 100.

A subset of questions was asked of military clinicians who were physicians (N=78) about board certifications and location of internship and residency training. Three fourths of physician respondents were board certified in family practice (76.9%), and 21.8 percent were certified in OB/GYN. Most had done their medical internship (75.6%) and residency (82.1%) in a military medical facility.

Enlisted Women's Reproductive Health

Both clinicians and chiefs of service were asked about their impressions of the common and serious reproductive health problems that enlisted women face in general and when they are deployed in the field. Table 4 presents the findings.

Perceptions of clinicians and chiefs of service were significantly different in all four of the above areas ($p=.000$). In terms of reproductive health problems that enlisted women experience in general, clinicians reported that non-STD vaginal infections were the most

common reproductive health problem among enlisted women, but chiefs of service reported that urinary tract infections were. Although both groups reported unintended pregnancy as a serious reproductive health problem for enlisted women, clinicians were more likely to say it was serious compared to chiefs of service.

Table 4: Perceived Prevalence and Severity of Reproductive Health Problems Among Enlisted Women, In General and In the Field, by Military Clinicians (N=110) and Chiefs of Service (N=105)*

Health Problems in General	Most Common		Most Serious	
	Clinicians	Chiefs of Service	Clinicians	Chiefs of Service
STD infection	14 (12.8)	13 (12.4)	19 (17.4)	20 (19.0)
Unintended pregnancy	27 (24.8)	16 (15.2)	50 (46.9)	39 (37.1)
Ectopic pregnancy	0 (0.0)	0 (0.0)	33 (30.3)	40 (38.1)
Vaginal infection (non-STD)	41 (37.6)	1 (1.0)	0 (0.0)	0 (0.0)
Urinary Tract Infection	20 (18.3)	44 (41.9)	0 (0.0)	1 (1.0)
Other	4 (3.7)	4 (3.8)	1 (0.9)	2 (1.9)
More than one response	2 (1.8)	0 (0.0)	5 (4.6)	0 (0.0)
Missing	1 (0.9)	2 (1.9)	1 (0.9)	3 (2.9)
Health Problems in the Field	Most Common		Most Serious	
	Clinicians	Chiefs of Service	Clinicians	Chiefs of Service
STD infection	3 (2.8)	4 (3.8)	11 (10.1)	14 (13.3)
Unintended pregnancy	4 (3.7)	12 (11.4)	21 (19.3)	19 (18.1)
Ectopic pregnancy	0 (0.0)	0 (0.0)	39 (35.8)	51 (48.6)
Vaginal infection (non-STD)	45 (41.3)	50 (47.6)	3 (2.8)	2 (1.9)
Urinary Tract Infection	20 (18.3)	27 (25.7)	3 (2.8)	9 (8.6)
Other	2 (1.8)	5 (4.8)	1 (0.9)	4 (3.8)
No field experience	33 (30.3)	N/A	30 (27.5)	N/A
More than one response	2 (1.8)	N/A	1 (0.9)	N/A
Missing	0 (0.0)	7 (6.7)	0 (0.0)	6 (5.7)

* Clinicians and chiefs of service differed significantly in their perceptions of all four areas regarding common and serious reproductive health problems among enlisted women.

For women in field conditions, clinicians and chiefs of service also had differing perceptions. Although both groups perceived that non-STD vaginal infections were the most common complaint for women in the field, chiefs were more likely than clinicians to perceive urinary tract infections and unintended pregnancy as the most common problem. Ectopic pregnancy and urinary tract infections were more likely to be viewed by chiefs as the most serious problem for women in the field than enlisted women.

Army and Navy respondents only differed significantly in their perceptions of field-related reproductive health problems, both the most common problems ($\chi^2=25.32$, $p=.001$) and the most serious ($\chi^2=25.28$, $p=.001$). While no Army respondents considered unintentional pregnancy as a common problem among women in the field, 14 percent of Navy respondents did. Army respondents were more likely to perceive that non-STD vaginal infections and "other" health problems were common health problems among enlisted women. Navy respondents were also more likely to perceive

unintentional pregnancy as the most serious (26.1%) problem for enlisted women in the field compared to Army respondents (10.9%). Nearly three times as many Army respondents (17.4%) perceived STD infections to be the most serious health problem for women in the field compared to Navy respondents (6.1%).

Military clinicians were also asked their perceptions of the likelihood that enlisted women would experience an STD infection, an unintended pregnancy, or a vaginal infection (see Table 5). Over half the clinicians thought enlisted women were “likely” or “very likely” to experience one of these problems. However, the respondents seemed to think that vaginal infections were the most likely problem enlisted women would face, because 9.2 percent thought that they would “almost definitely” have a vaginal infection but almost no respondents thought enlisted women would “almost definitely” have an STD or unintended pregnancy. No significant differences by service branch were found.

Table 5: Perceived Likelihood of Enlisted Women’s Reproductive Health Problems, According to Military Clinicians (N=110)			
Perceived Likelihood	STD Infection	Unintentional Pregnancy	Vaginal Infections
Very unlikely	2 (1.8)	2 (1.8)	2 (1.8)
Unlikely	39 (35.8)	44 (40.4)	9 (8.3)
Likely	47 (43.1)	46 (42.2)	48 (44.0)
Very likely	14 (12.8)	10 (9.2)	38 (34.9)
Almost definitely	1 (0.9)	0 (0.0)	10 (9.2)
Don’t know	6 (5.5)	7 (6.4)	2 (1.8)

Sexually Transmitted Disease Infection Factors

Clinicians and chiefs of service were asked their perceptions of why enlisted women engaged in unsafe sexual behavior that placed them at risk for STD infection. Table 6 lists the reasons that were chosen by occupation.

The majority of respondents reported that enlisted women engage in unsafe sex because they did not perceive themselves at risk for unintended consequences such as STD infection. The next most common reason for unsafe sex was negative partner attitudes toward condoms. No significant differences between perceptions of clinicians and chiefs of service nor Army and Navy respondents were found.

Table 6: Perceived Reasons Enlisted Women Engage in Unsafe Sex by Occupation (N=215)		
Reason for Unsafe Sex	Clinicians	Chiefs of Service
No perceived risk	64 (58.7)	61 (58.1)
Lack of knowledge	7 (6.4)	5 (4.8)
Lack of skill	2 (1.8)	1 (1.0)
Negative attitudes	2 (1.8)	11 (10.5)
Negative partner attitudes	16 (14.7)	19 (18.1)
Low self-esteem	6 (5.5)	2 (1.9)
Other	4 (3.7)	4 (3.8)
Total	110	105

Military clinicians were asked their opinion on the condom attitudes of enlisted women in the Army and Navy (see Table 7). Respondents generally reported that women were positive or neutral about condoms. However, one fifth of the clinicians reporting (20.2%) said that they did not know what the condom attitudes of enlisted women were.

Table 7: Perceived Condom Attitudes of Enlisted Women, According to Military Clinicians (N=110)	
Attitudes Toward Condom Use	N (%)
Very positive	6 (5.5)
Positive	41 (37.6)
Neutral	27 (24.8)
Negative	11 (10.1)
Very negative	2 (1.8)
Don't know	22 (20.2)

Unintentional Pregnancy Factors

Clinicians and chiefs of service were also asked why they thought enlisted women had unintentional pregnancies. Table 8 lists the reasons that were chosen by occupation.

Results showed that the largest proportions of clinicians and chiefs of service reporting perceive that enlisted women have unintentional pregnancies because they do not perceive their risk of becoming pregnant. However, more clinicians thought another reason for unintentional pregnancy was lack of skill with contraception, and more chiefs thought negative attitudes toward contraception was an important reason. No difference was found in the perceptions of Army and Navy clinicians.

Table 8: Perceived Reasons Enlisted Women Have Unintentional Pregnancies by Occupation (N=215)		
Reason for Unintentional Pregnancy	Clinicians	Chiefs of Service
No perceived risk	44 (40.4)	54 (51.4)
Lack of knowledge	11 (10.1)	9 (8.6)
Lack of skill	17 (15.6)	4 (3.8)
Negative attitudes	5 (4.6)	21 (20.0)
Negative partner attitudes	1 (0.9)	3 (2.9)
Low self-esteem *	N/A	4 (3.8)
Other	8 (7.3)	8 (7.6)
Total	110	105

* This option was not included on the clinician survey.

Some clinicians who responded to "other" specified the following additional reasons for unintentional pregnancy among enlisted women: acceptance of premarital sex, lack of judgment, birth control inconvenience, denial, avoidance of duty, counselors lack of knowledge, lack of planning ahead, low self-esteem, and cultural and peer pressure.

Enlisted women's attitudes toward contraception were more closely examined through the responses of military clinicians to this question (see Table 9). Both Army and Navy clinicians thought that enlisted women were positive (72.5%) or very positive (13.8%) toward contraception. Only 2 respondents thought that enlisted women had negative attitudes toward contraception.

Table 9: Perceived Contraception Attitudes of Enlisted Women, According to Military Clinicians (N=110)	
Attitudes Toward Contraception	N (%)
Very positive	15 (13.8)
Positive	79 (72.5)
Neutral	11 (10.1)
Negative	2 (1.8)
Very negative	0 (0.0)
Don't know	2 (1.8)

Vaginal Infection Factors

The vaginal infection factors examined were different in the clinician and chiefs of service surveys because the space limitations in the chiefs survey. Table 10 presents the results.

Unlike the reasons for unintentional pregnancy and STD infection, chiefs of service and clinicians did not think lack of perceived risk was a common reason for vaginal infections among enlisted women. Instead, many factors perceived to be important were related to knowledge (lack of knowledge) and skill (unable to stay clean in the field, lack of skill,

improper use of hygiene products). Clinicians also specified other reasons for vaginal infections among enlisted women, including: use of antibiotics, excessive douching, and tight clothing. No differences by service branch were noted in the responses.

Table 10: Perceived Reasons Enlisted Women Develop Vaginal Infections by Occupation (N=215)		
Reason for Vaginal Infections	Clinicians	Chiefs of Service
No perceived risk	3 (2.8)	13 (12.4)
Lack of knowledge	16 (14.7)	51 (48.6)
Lack of skill	10 (9.2)	12 (11.4)
Unhealthy lifestyle *	27 (24.8)	N/A
Unable to stay clean in field *	24 (22.0)	N/A
Improper use of hygiene products.	5 (4.6)	16 (15.2)
Other	6 (5.5)	0 (0.0)
Total	110	105

* This option was not included on the chief of service survey.

Patient Education

Table 11 presents the patient education services provided during routine and predeployment care as reported by individual clinicians and chiefs supervising different departments that provide medical care to enlisted women in the Army and Navy. Results show that clinicians were significantly less likely than chiefs to report providing patient education on contraceptives, STD prevention, and hygiene as part of routine care. However, clinicians and chiefs reported similar levels of predeployment patient education in all areas. Crosstabs and chi-squares found that no differences existed between the services (Army and Navy) on the level of patient education provided during routine care and predeployment care.

Table 11: Reproductive Health Education and Counseling Provided to Enlisted Women According to Military Clinicians (N=109) and Chiefs of Service (N=105)				
Reproductive Health Education and Counseling	Routine Care		Predeployment Care	
	Clinicians N (%)	Chiefs N (%)	Clinicians N (%)	Chiefs N (%)
Contraceptive Education	53 (48.6)	94 (89.5)*	44 (40.4)	44 (41.9)
STD Prevention Education	39 (35.8)	73 (69.5)*	38 (34.9)	34 (32.4)
Hygiene Education	17 (15.6)	43 (41.0)*	22 (20.2)	21 (20.0)
Total	109	105	109	105

* $p < .01$

The reasons patients may not receive patient education on reproductive health was further examined. Table 12 presents the reasons health education may not be provided during routine and predeployment care according to clinicians and chiefs of service. Lack of time was one of the most commonly reported barriers to providing patient education to

enlisted women, followed by lack of staff. During routine care, clinicians were more likely than chiefs to report that not all patients needed patient education in these reproductive health areas as a reason they did not receive it. Chiefs were more likely to say that lack of time, staff, and skills (in the form of skilled staff) were barriers to providing reproductive health education to enlisted women. Chiefs were also significantly more likely to view STD prevention education as being ineffective.

Only one significant difference was apparent in routine patient education by service branch. For routine birth control education, Navy respondents were significantly more likely to report that not all patients needed routine contraceptive education and counseling ($\chi^2=7.84$; $p=.02$).

Table 12: Barriers to Providing Reproductive Health Education to Enlisted Women According to Military Clinicians (N=109) and Chiefs of Service (N=105)				
Barriers to Reproductive Health Education	Routine Care		Predeployment Care	
	Clinicians N (%)	Chiefs N (%)	Clinicians N (%)	Chiefs N (%)
Contraceptive Education				
Not needed by all patients	28 (25.7)	12 (11.4)**	14 (12.8)	10 (9.5)
No time	27 (24.8)	58 (55.2)**	12 (11.0)	46 (43.8)**
Lack of staff	15 (13.8)	35 (33.3)**	7 (6.4)	20 (19.0)**
Lack of skills	0 (0.0)	29 (27.6)**	1 (0.9)	21 (20.0)**
Lack of comfort	1 (0.9)	0 (0.0)	2 (1.8)	0 (0.0)
No policy making this standard	7 (6.4)	10 (9.5)	2 (2.8)	14 (13.3)**
Not effective	2 (1.8)	6 (5.7)	0 (0.0)	0 (0.0)
Other	11 (10.1)	9 (8.6)**	3 (2.8)	10 (9.5)*
STD Prevention Education				
Not needed by all patients	39 (35.8)	9 (8.6)**	11 (10.1)	5 (4.8)
No time	32 (29.4)	55 (52.4)**	11 (10.1)	41 (39.0)**
Lack of staff	19 (17.4)	31 (29.5)*	7 (6.4)	21 (20.0)**
Lack of skills	0 (0.0)	32 (30.5)**	0 (0.0)	0 (0.0)
Lack of comfort	2 (1.8)	3 (2.9)	2 (0.9)	2 (1.9)
No policy making this standard	8 (7.3)	9 (8.6)	3 (2.8)	15 (14.3)**
Not effective	1 (0.9)	11 (10.5)**	1 (0.9)	3 (2.9)**
Other	5 (4.6)	0 (0.0)	0 (0.0)	0 (0.0)
Hygiene Education				
Not needed by all patients	46 (42.2)	22 (21.0)**	17 (15.6)	10 (9.5)
No time	28 (25.7)	54 (51.4)**	14 (13.0)	39 (37.1)**
Lack of staff	11 (10.1)	28 (26.7)**	8 (7.3)	22 (21.0)*
Lack of skills	7 (6.4)	26 (24.8)**	4 (3.7)	16 (15.2)**
Lack of comfort	2 (1.8)	7 (6.7)	1 (0.9)	3 (2.9)
No policy making this standard	6 (5.5)	11 (10.5)	6 (5.5)	16 (15.2)*
Not effective	2 (1.8)	4 (3.8)	1 (0.9)	3 (2.9)
Other	8 (7.3)	7 (6.7)	4 (3.7)	7 (6.7)
Total	109	105	109	105

* $p<.05$; ** $p<.01$

Predeployment patient education showed similar patterns. Both clinicians and chiefs of service reported that time constraints were an important barrier to predeployment reproductive health education. Chiefs were significantly more likely than clinicians to report barriers of time, lack of staff, and lack of standard policy. For contraceptive education and hygiene education, chiefs were also significantly more likely than clinicians to report lack of skilled staff as a barrier. For STD prevention education during predeployment, chiefs were again significantly more likely to report that it was not effective compared to clinicians. Barriers reported by clinicians were much lower in frequency for predeployment patient education, probably because several reported not being responsible for predeployment care.

Only two differences between service branches were found in predeployment patient education in terms of hygiene education. Army respondents were more likely to report that time was a barrier, and the Navy was more likely to report that all patients did not need hygiene education at predeployment. The services did not differ significantly in any barriers to predeployment contraceptive education or STD prevention education.

Military clinicians specified "other" reasons they may not provide specific patient education services to enlisted women. Table 13 summarizes these comments. Fear of harassment and concerns about privacy were mentioned more than once. Another barrier that was reported for each category was "depends on type of appointment," suggesting that clinicians may not provide routine education to women unless they had symptoms or questions indicating they needed patient education on that topic.

Table 13: Other Reasons Clinicians Do Not Provide Specific Patient Education		
Contraceptive Education	STD Prevention Education	Hygiene Education
<ul style="list-style-type: none"> • Responsibility of another clinic • Depends on type of appointment • Lack of privacy • See military dependents only • See enlisted women referred with specific health problems • Fear harassment 	<ul style="list-style-type: none"> • Patient reticence • Fear harassment • Privacy issues • Depends on type of appointment 	<ul style="list-style-type: none"> • Lack knowledge • Give educational material • Give if asked • Depends on type of appointment • Lack of patient interest

Health Education

Apart from the patient education provided during routine and predeployment care, respondents were asked about health education they or their departments provided. Table 14 summarizes the type of media by health education topic.

Table 14: Reported Health Education Provided to Enlisted Women by Clinicians and Chiefs of Service (N=215)				
Health Education Topic	Class	Written Information	Audio/Video	Computer-Assisted Instruction
Alcohol and other Drug Prevention	51 (23.8)	84 (39.3) *	19 (8.9)	3 (1.4)
Contraception	82 (38.3) **	164 (76.6) **	56 (26.2)	14 (6.5)
STD Prevention	80 (37.4)	158 (73.8)	54 (25.2)	8 (3.7)
HIV/AIDS Prevention	72 (33.6)	131 (61.2)	46 (21.5)	7 (3.3)
Vaginitis Prevention	40 (18.7)	120 (56.1)	15 (7.0)	6 (2.8)
Hygiene	35 (16.4)	58 (27.1) **	13 (6.1)	4 (1.9)
Assertiveness Training	22 (10.3)	38 (17.8) **	9 (4.2)	0 (0.0)

* $p < .05$; ** $p < .01$ differences between clinician and chief of service respondents.

Across all educational topics, respondents were most likely to report having provided written information followed by classes, and then audio/video materials. Respondents were least likely to have provided computer-assisted instruction (CAI) in health education.

A few significant differences were noted between chiefs of service and clinicians on health education provided to enlisted women. Chiefs were significantly more likely to report giving written information on alcohol and other drug (AOD) prevention and hygiene education. Clinicians were significantly more likely to report giving classes and written information on contraception and giving written information on assertiveness.

When examining differences by service branch, we found that Navy respondents were more likely to report having used audio/video materials for all of the educational areas except for assertiveness training. They were also more likely than Army respondents to report having given a class on STD prevention.

Respondents were asked to rate the quality and quantity of health education programs provided to enlisted women. Table 15 presents the overall ratings of quality, and Table 16 presents the overall ratings of quantity.

Half of respondents rated both military contraception and STD prevention education as good, but most rated hygiene and assertiveness training education as neither good nor bad. Chiefs of service were significantly more likely to rate military contraceptive education as "very good," but no other significant differences between clinicians and chiefs of service were noted on quality of military health education. Army and Navy respondents did not differ significantly in any of the ratings of quality.

Table 15: Perceived Quality of Health Education Provided to Enlisted Women, According to Clinicians and Chiefs of Service (N=215)					
Topic	Very Good	Good	Neither Good nor Bad	Bad	Very Bad
Contraception *	20 (10.0)	100 (49.8)	61 (30.3)	20 (10.0)	0 (0.0)
STD Prevention	19 (9.4)	103 (50.7)	60 (29.6)	18 (8.9)	3 (1.5)
Hygiene Education	7 (3.5)	49 (24.7)	102 (51.5)	35 (17.7)	5 (2.5)
Assertiveness Training	3 (1.6)	24 (13.0)	116 (62.7)	33 (17.8)	8 (4.3)

* $p < .05$ difference between clinicians and chiefs of service.

Unlike quality, the perception of quantity of health education was viewed less favorably (see Table 16). Very few respondents reported that enlisted women received too much health education, and only one-fourth to one-third thought the military health education they received was "just right" or adequate. Two-thirds or more perceived that enlisted women received too little health education on contraception, STD prevention, hygiene, and assertiveness. Chiefs of service were significantly more likely to perceive that the amount of hygiene education was inadequate, but they were also less likely to rate hygiene education at all, suggesting that they were unaware of the amount provided.

Table 16: Perceived Amount of Health Education Provided to Enlisted Women, According to Clinicians and Chiefs of Service (N=215)			
Topic	Too Much	Just Right	Too Little
Contraception	3 (1.7)	54 (30.5)	120 (67.8)
STD Prevention	3 (1.7)	56 (31.5)	119 (66.9)
Hygiene **	0 (0.0)	34 (27.2)	91 (72.8)
Assertiveness Training	5 (3.0)	47 (27.8)	115 (68.0)

* $p < .05$; ** $p < .01$ difference between clinicians and chiefs

No significant differences were found by branch of service; respondents in the Army and Navy answered similarly.

Conclusions

The current needs assessment study examined the perceptions of military clinicians and chiefs of service in the Army and Navy to determine the reproductive health education needs of enlisted women they serve. The results are exploratory and show that attention to several areas could improve the situation for enlisted women.

Limitations

The present study has limitations concerning instrumentation and response rate, which affect the internal and external validity of the study. Regarding instrumentation, the use

of a newly developed survey may have introduced error into data and the results of the data analysis. Although the questionnaires were developed with the help of an expert panel and were pilot tested, open-ended questions revealed new areas for further exploration.

The study is also limited by the response rate. Although the sample was random, self-selection is a possibility because only about 40 percent of clinicians in the original sample submitted questionnaires after three rounds of data collection. Interpretation of findings must be tempered by knowledge of these limitations.

Sample

Respondents to the surveys were largely white males between the ages 30 and 50. These findings should be compared to demographics of military clinicians and chiefs of service to determine the degree to which the sample reflects the population from which they were drawn. Because the response rate among clinicians was less than 50 percent and most clinicians who responded were physicians, the findings are more applicable to physicians and chiefs than nurses.

Most respondents had completed their medical training 10 or more years ago, and the vast majority had received health care readiness training and had deployment experience. The consistent amount of training in health care readiness confirms the importance of this activity for clinical staff across services and clinical roles. The clinician respondents also reported high levels of training in reproductive health issues relevant to enlisted women, suggesting that they were informed of women's health needs.

More respondents were in the Navy than the Army, but more Army respondents reported field training deployment experience. These findings suggest that clinical staff in the Army may have more opportunity to participate in limited field training than those in the Navy.

Enlisted Women's Reproductive Health

Clinicians and chiefs of service had very different perceptions of the common and serious reproductive health problems experienced by enlisted women, both in general and the field. The difference in perceptions may be attributed to different concerns about the impact of health problems on individual women compared to the impact on the unit. For example, clinicians may be aware of individual women becoming pregnant, but chiefs of service may know unit-wide statistics.

Army and Navy respondents also had different perceptions about reproductive health problems experienced in the field. Navy respondents were more likely than those in the Army to view unintentional pregnancy as a common and serious problem. The perception of pregnancy as common among Navy women may be because shipboard

deployments are longer and pregnancy is more likely to be diagnosed while at sea than when in field conditions. Also, shipboard evacuations of pregnant female sailors may be considered more serious because they may be more disruptive and costly than evacuating soldiers from the field. Sexually transmitted disease infections were viewed as more serious among Army respondents, perhaps because they can lead to acute conditions and emergencies that disrupt field operations.

Clinicians were slightly more likely than unlikely to believe that enlisted women would contract an STD infection or become pregnant, but they were very likely to believe that an enlisted woman would contract a non-STD vaginal infection. These findings suggest that vaginal infections are more common than pregnancy and STDs among enlisted women as they are among women in general. However, the findings also suggest that clinicians view pregnancy and STDs as health issues affecting enlisted women more than they should.

Lack of perceived risk was an important reason for STD infection and unintentional pregnancy among enlisted women, according to all respondents. These findings suggest that increasing the perception of risk would be more effective than increasing knowledge to making a change in these health problems.

Negative partner attitudes were also rated as important in unsafe sex practices. Because enlisted women were perceived to have generally positive or neutral attitudes toward condoms, promoting condom use among their sexual partners may be more useful.

In terms of unintentional pregnancy, lack of skills and negative attitudes were rated as important factors, even though enlisted women in general were perceived as having positive or very positive attitudes toward contraception. These findings suggest that the subgroup of enlisted women with negative attitudes toward contraception and poor skills in use of contraceptive methods should be targeted.

Lack of perceived risk was not viewed as an important factor in contracting vaginal infections for enlisted women. Instead, lack of knowledge and skills—particularly in field conditions—were important determinants. These findings indicate the need for didactic information in proper hygiene practices and may include modeling ways to bathe while living in field conditions.

For each of the questions related to the reasons for STD infection, unintentional pregnancy, and vaginal infection, clinicians provided additional reasons enlisted women were at risk, including cultural and peer factors and the effect of other negative health behaviors. These factors should be further examined to determine their relative prevalence and importance.

Patient Education

Compared to chiefs of service, military clinicians reported much lower levels of routine patient education in contraception, STD prevention, and hygiene being provided to enlisted women. Such education may be a service goal of the command, but clinicians may not always be able to or choose to provide it. For example, clinicians reported that such education is not always provided because it is not always necessary. Chiefs of service were more likely to cite lack of time, staff, and skills as primary barriers to providing patient education during routine care visits.

Patient education was provided less than half the time to enlisted women during predeployment care visits, according to both clinicians and chiefs of service. Several chiefs of service reported that policy did not support patient education on contraception, STD prevention, and hygiene as part of standard predeployment care. Because of the perceived severity of STD infection and unintentional pregnancy on the readiness of the deployed unit, military commands may want to change the policy on predeployment care for enlisted women to include patient education in these areas.

Chiefs of service perceived that a primary reason STD prevention education was not provided (routinely or during predeployment) was because it was not effective. Further examination is needed to determine whether this perception is accurate or whether chiefs are misinformed about the usefulness of STD prevention education.

Army respondents were more likely to feel hygiene education was needed prior to deployment. These findings indicate that the field conditions experienced by enlisted women in the Army placed them at greater risk of hygiene-related health problems than Navy women on shipboard. Therefore, Army women may require more attention to hygiene education than Navy women, depending upon length and type of deployment.

Clinicians suggested other reasons enlisted women do not receive patient education, such as lack of privacy and clinician fears of being charged with harassment. Because these reasons were not listed on the surveys, they need to be examined further to determine their importance.

Health Education

Among several health education topics, respondents were most likely to report providing education on contraception, STD prevention, and HIV/AIDS prevention. Written material was the most common form of education provided, followed by classes and then audio and video materials. Very few respondents reported using computer-assisted instruction to provide health education. These findings support other results that show that respondents do not think that enlisted women receive enough health education on topics related to reproductive health.

Most respondents rated the health education that enlisted women receive in contraception and STD prevention as very good or good, but their ratings of education in hygiene and assertiveness were more moderate. These results, combined with the perceptions of the amount of health education enlisted women receive, indicate that there is a need to examine the contraception and STD prevention education currently being provided and to make it more widely available to enlisted women.

Appendix A
Needs Assessment Survey of Military Clinicians

Health Care Provider Survey: Health Needs of Enlisted Army and Navy Women

The purpose of this survey is to collect information about the health knowledge, attitudes, and practices of military health care providers who serve enlisted Army and Navy women. The information you provide will help to identify the kind of health programs and services enlisted women in the Army and Navy need.

The survey asks several questions about reproductive health care provided to enlisted women. We realize that some of the questions may be sensitive for health care providers who may feel that standard medical care should include some services that they are unable to provide because of constraints. To get good information, it is important that everyone be as honest as possible.

Completing the survey is voluntary, and the answers you give will be safeguarded to the fullest extent possible in accordance with the applicable statutes. Once we receive your survey, we will destroy the information linking your answers with any personal information, so your answers will then be anonymous. Your answers will be combined with the answers of other military health care providers serving enlisted Army and Navy women. No individual responses will be reported, so please answer every question as honestly as you can.

Do not write your name on this survey.

When you are finished, send back the completed survey in the return envelope. No postage is necessary.

Privacy Act Statement

Needs Assessment Survey among Military Clinicians

<u>Authority:</u>	10 U.S.C. §136 and §2358
<u>Principal Purpose(s):</u>	To assess the range of reproductive health education efforts and needs of enlisted women in the armed services.
<u>Routine Use(s):</u>	None. (Data concerning individual participants and their survey answers will not be distributed outside the DoD or its contractors.)
<u>Disclosure:</u>	Voluntary. There is no penalty if you choose not to respond. However, maximum participation is encouraged so that the data will be complete and representative.

Thank you very much for your help.

Health Care Provider Survey: Health Needs of Enlisted Army and Navy Women

I. Demographics—Mark only one answer to each question unless you are asked to check all that apply.

- | | |
|---|---|
| <p>1. How old are you? _____ Years</p> <p>2. What is your sex?</p> <p><input type="checkbox"/> Female
<input type="checkbox"/> Male</p> <p>3. How do you describe yourself?</p> <p><input type="checkbox"/> White—not Hispanic
<input type="checkbox"/> Black—not Hispanic
<input type="checkbox"/> Hispanic or Latino
<input type="checkbox"/> Asian or Pacific Islander
<input type="checkbox"/> American Indian or Alaskan Native
<input type="checkbox"/> Other (specify): _____</p> <p>4. In what branch of the service are you?</p> <p><input type="checkbox"/> Army
<input type="checkbox"/> Navy
<input type="checkbox"/> Other (Specify): _____</p> <p>5. Date of entry in the service:</p> <p>Month ____ Day ____ Year ____</p> <p>6. Date of separation/Estimated time of separation</p> <p>Month ____ Day ____ Year ____</p> <p>7. Type of health care provider:</p> <p><input type="checkbox"/> Nurse
<input type="checkbox"/> Nurse Practitioner
<input type="checkbox"/> Physician's Assistant
<input type="checkbox"/> Physician
<input type="checkbox"/> Other (Specify): _____</p> <p>8. Type of clinic/service where you practice:</p> <p><input type="checkbox"/> Family Practice
<input type="checkbox"/> Internal Medicine
<input type="checkbox"/> Obstetrics/Gynecology
<input type="checkbox"/> Preventive Medicine
<input type="checkbox"/> Active Duty Medical Clinic
<input type="checkbox"/> Other (Specify): _____</p> <p>9. In what year did you complete your basic medical training (i.e., medical or nursing school)?</p> | <p>19 ____</p> <p>10. In what type of health care facility did you receive your postgraduate medical/nursing training?</p> <p><input type="checkbox"/> Military
<input type="checkbox"/> Civilian</p> <p>11. Have you had training in health care as it pertains to readiness?</p> <p><input type="checkbox"/> Yes
<input type="checkbox"/> No</p> <p>12. What type of deployment experience do you have? (Check all that apply.)</p> <p><input type="checkbox"/> None
<input type="checkbox"/> Field training exercises
<input type="checkbox"/> Combat duty
<input type="checkbox"/> Humanitarian missions
<input type="checkbox"/> Other (Specify): _____</p> <p>13. Prior to this study have you ever had any training in women's health? Please do not count participation in this study. (Check all that apply.)</p> <p><input type="checkbox"/> None, and I am not interested in any
<input type="checkbox"/> None, but I would like to have training in this area.
<input type="checkbox"/> Medical/nursing school
<input type="checkbox"/> Residency
<input type="checkbox"/> Subspecialty certification
<input type="checkbox"/> Continuing medical education
<input type="checkbox"/> Other (Specify): _____</p> <p>14. Prior to this study have you ever had any training in STD prevention counseling skills? (Check all that apply.)</p> <p><input type="checkbox"/> None, and I am not interested in any
<input type="checkbox"/> None, but I would like to have training</p> |
|---|---|

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in this area.

- ☐ Medical/nursing school
- ☐ Residency
- ☐ Subspecialty certification
- ☐ Continuing medical education
- ☐ Other (Specify): _____

**If you are not a physician, GO TO
QUESTION #20.**

For Physicians:

15. Prior to this study have you ever had any training in **sexual risk assessment** (sexual history taking) skills? **(Check all that apply.)**

- ☐ None, and I am not interested in any
- ☐ None, but I would like to.
- ☐ Medical/nursing school
- ☐ Residency
- ☐ Subspecialty certification
- ☐ Continuing medical education
- ☐ Other (Specify): _____

16. Prior to this study have you ever had any training in **contraception counseling** skills? **(Check all that apply.)**

- ☐ None, and I am not interested in any
- ☐ None, but I would like to.
- ☐ Medical/nursing school
- ☐ Residency
- ☐ Subspecialty certification
- ☐ Continuing medical education
- ☐ Other (Specify): _____

17. In which of the following specialties are you board certified or board eligible? **(Check all that apply.)**

- ☐ Family Practice
- ☐ Internal Medicine
- ☐ Obstetrics/Gynecology
- ☐ None, I am a General Medical Officer.
- ☐ I am not a physician (skip to question 20)
- ☐ Other (Specify): _____

18. In which type of health care facility did you do your internship?

- ☐ Military
- ☐ Civilian

19. In which type of health care facility did you do your residency?

- ☐ Military
- ☐ Civilian
- ☐ None, I am a General Medical Officer

II. Attitudes—The following questions ask your opinion, based on your experience as a practitioner, about specific health problems and behaviors that are important for enlisted Army and Navy women.

20. **Ideally**, which of the following *should be included* in **routine care visits** for enlisted women for their reproductive health? **(Check all that apply.)**

- ☐ Pregnancy testing
- ☐ Contraceptive education/counseling
- ☐ STD screening
- ☐ Sexual history taking
- ☐ STD prevention education
- ☐ Education on hygiene practices
- ☐ None.
- ☐ Other (Specify): _____

21. **Realistically**, which of the following *are being included* in **routine care visits** for enlisted women for their reproductive health? **(Check all that apply.)**

- ☐ Pregnancy testing
- ☐ Contraceptive education/counseling
- ☐ STD screening
- ☐ Sexual history taking
- ☐ STD prevention education
- ☐ Education on hygiene practices
- ☐ None.
- ☐ Other (Specify): _____
- ☐ I don't know.

22. **Ideally**, which of the following should be included in **predeployment care** for enlisted women for their reproductive health? **(Check all that apply.)**

- ☐ Pregnancy testing
- ☐ Contraceptive education/counseling
- ☐ STD prevention education
- ☐ Prescription medication review
- ☐ Education on hygiene practices
- ☐ None
- ☐ Other (Specify): _____

23. **Realistically**, which of the following are included in **predeployment care** for enlisted women for their reproductive health? **(Check all that apply.)**

- ☐ Pregnancy testing
- ☐ Contraceptive education/counseling
- ☐ STD prevention education
- ☐ Prescription medication review
- ☐ Education on hygiene practices
- ☐ None
- ☐ Other (Specify): _____
- ☐ I don't know.

24. **Ideally**, what medical and hygiene supplies would you **recommend be available** during deployment to care for the reproductive health needs of enlisted women? **(Check all that apply.)**

- ☐ None.
- ☐ Oral contraceptives
- ☐ Depo Provera injections
- ☐ Condoms
- ☐ Unscented tampons
- ☐ Unscented panty liners
- ☐ Unscented wet-wipes
- ☐ Yeast infection medication
- ☐ Female urinary director
- ☐ Other: _____

25. What is the **most common** reproductive health problem among enlisted women? **(Check one.)**

- ☐ STD infection
- ☐ Unintended pregnancy
- ☐ Ectopic pregnancy
- ☐ Spontaneous abortion
- ☐ Vaginal infection (non-STD)
- ☐ Urinary tract infection
- ☐ Other: _____

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26. What is the **most serious** reproductive health problem among enlisted women?

- ☐ STD infection
- ☐ Unintended pregnancy
- ☐ Spontaneous abortion
- ☐ Ectopic pregnancy
- ☐ Vaginal infection (non-STD)
- ☐ Urinary tract infection
- ☐ Other: _____

27. What is the **most common** reproductive health problem among enlisted women in the field?

- ☐ STD infection
- ☐ Unintended pregnancy
- ☐ Spontaneous abortion
- ☐ Ectopic pregnancy
- ☐ Vaginal infection (non-STD)
- ☐ Urinary tract infection
- ☐ Other: _____
- ☐ No field experience with women

28. What is the **most serious** reproductive health problem among enlisted women in the field?

- ☐ STD infection
- ☐ Unintended pregnancy
- ☐ Spontaneous abortion
- ☐ Ectopic pregnancy
- ☐ Vaginal infection (non-STD)
- ☐ Urinary tract infection
- ☐ Other: _____
- ☐ No field experience with women

29. What do you perceive to be the **most common reason for premature separation** from the military among enlisted women?

- ☐ Exceeding height/weight/body fat standards
- ☐ Drug/alcohol abuse
- ☐ Criminal activity
- ☐ Physical disability/injury
- ☐ Pregnancy
- ☐ Other: _____

30. What is the likelihood that the average enlisted woman will experience an STD within the next year?

- ☐ Very unlikely
- ☐ Unlikely
- ☐ Likely
- ☐ Very Likely
- ☐ Almost Definitely
- ☐ I don't know.

31. What is the likelihood that the average enlisted woman will experience an **unintentional pregnancy** within the next year?

- ☐ Very unlikely
- ☐ Unlikely
- ☐ Likely
- ☐ Very Likely
- ☐ Almost Definitely
- ☐ I don't know.

32. What is the likelihood that the average enlisted woman will experience a vaginal infection (non-STD) within the next year?

- ☐ Very unlikely
- ☐ Unlikely
- ☐ Likely
- ☐ Very Likely
- ☐ Almost Definitely
- ☐ I don't know.

33. In general, what is the attitude of enlisted women toward **using male condoms**?

- ☐ Very positive
- ☐ Positive
- ☐ Neutral
- ☐ Negative
- ☐ Very negative
- ☐ I don't know.

34. In general, what is the attitude of enlisted women's partners toward **using male condoms**?

- ☐ Very unlikely
- ☐ Unlikely
- ☐ Likely
- ☐ Very Likely
- ☐ Almost Definitely
- ☐ I don't know.

35. In general, what is the attitude of enlisted women toward **using a method of birth**

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control?

- ☐ Very positive
- ☐ Positive
- ☐ Neutral
- ☐ Negative
- ☐ Very negative
- ☐ I don't know.

36. What is the most common reason that enlisted women have **unintentional pregnancies**? (Check one answer.)

- ☐ Lack of knowledge about reproduction
- ☐ Lack of skill using birth control
- ☐ Inability to persuade partner to use birth control method
- ☐ Not feeling that she is at risk
- ☐ Lack of awareness of effect on life
- ☐ Negative attitudes toward birth control
- ☐ Religious reasons
- ☐ Partner's negative attitudes toward birth control
- ☐ Strategy to avoid field duty
- ☐ Other: _____
- ☐ I don't know.

37. What is the most common reason that enlisted women **do not use safer sex practices**? (Check one answer.)

- ☐ Lack of knowledge about STDs
- ☐ Lack of skill using condoms
- ☐ Inability to persuade partner to use STD prevention method
- ☐ Not feeling that she is at risk
- ☐ Low self-esteem
- ☐ Negative attitudes toward condoms
- ☐ Religious reasons
- ☐ Partner's negative attitudes toward
- ☐ Other: _____
- ☐ I don't know.

38. What is the most common reason that enlisted women get **non-STD vaginal infections** (yeast, etc.)? (Check one answer.)

- ☐ Lack of knowledge about hygiene
- ☐ Improper use of hygiene products
- ☐ Unhealthy lifestyle (stress, poor diet)
- ☐ Lack of skill in proper hygiene
- ☐ Inability to practice proper hygiene in the field environment
- ☐ Not feeling that she is at risk
- ☐ Other: _____
- ☐ I don't know.

III. Health Services—The next questions are about services you have provided to enlisted women during routine health visits (annual Pap test), during predeployment, and during deployment in the last 6 months. We realize that health care providers often have "ideal" standards but that they may not be able to deliver their "ideal" health care due to different constraints. We are interested in what you are able to do.

The following 11 questions are about routine care visits.

39. What proportion of your patients are enlisted women?

- ☐ All or nearly all
- ☐ Most
- ☐ About half
- ☐ Some
- ☐ Few
- ☐ None

40. What proportion of your enlisted female patients do you provide with **contraceptive education and counseling**?

- ☐ All or nearly all
- ☐ Most
- ☐ About half
- ☐ Some
- ☐ Few
- ☐ None

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41. What proportion of your enlisted female patients do you provide with **STD prevention counseling and education**?

☐ All or nearly all
☐ Most
☐ About half
☐ Some
☐ Few
☐ None

42. On what proportion of your enlisted female patients do you take a **sexual history (sexual risk assessment)**?

☐ All or nearly all
☐ Most
☐ About half
☐ Some
☐ Few
☐ None

43. What proportion of your enlisted female patients do you personally ask about their **use of STD prevention methods**?

☐ All or nearly all
☐ Most
☐ About half
☐ Some
☐ Few
☐ None

44. What proportion of your enlisted female patients do you provide with education on **hygiene practices**?

☐ All or nearly all
☐ Most
☐ About half
☐ Some
☐ Few
☐ None

45. What prevents you from providing ***routine* contraceptive education and counseling** to your enlisted female patients? (**Check all that apply.**)

☐ I provide this service to all patients.
☐ I only provide this service to patients who request it.
☐ Not needed by all patients
☐ No time
☐ Lack of staff
☐ Lack of skills
☐ Lack of comfort
☐ No policy making this standard care
☐ Not effective
☐ Other: _____

46. What prevents you from taking a **sexual history (sexual risk assessment)** from your enlisted female patients? (**Check all that apply.**)

☐ I provide this service to all patients.
☐ I only provide this service to patients who request it.
☐ Not needed by all patients
☐ No time
☐ Lack of staff
☐ Lack of skills
☐ Lack of comfort
☐ No policy making this standard care
☐ Not effective
☐ Other: _____

47. What prevents you from providing **STD prevention counseling and education** to your enlisted female patients? (**Check all that apply.**)

☐ I provide this service to all patients.
☐ I only provide this service to patients who request it.
☐ Not needed by all patients
☐ No time
☐ Lack of staff
☐ Lack of skills
☐ Lack of comfort
☐ No policy making this standard care
☐ Not effective
☐ Other: _____

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48. What prevents you from asking enlisted female patients about their use of **STD prevention methods**? (Check all that apply.)

- ☐ I provide this service to all patients.
- ☐ I only provide this service to patients who request it.
- ☐ Not needed by all patients
- ☐ No time
- ☐ Lack of staff
- ☐ Lack of skills
- ☐ Lack of comfort
- ☐ No policy making this standard care
- ☐ Not effective
- ☐ Other: _____

49. What prevents you from providing **personal hygiene education** to enlisted female patients? (Check all that apply.)

- ☐ I provide this service to all patients.
- ☐ I only provide this service to patients who request it.
- ☐ Not needed by all patients
- ☐ No time
- ☐ Lack of staff
- ☐ Lack of skills
- ☐ Lack of comfort
- ☐ No policy making this standard care
- ☐ Not effective
- ☐ Other: _____

The following 5 questions refer to predeployment care given to enlisted women who are deployed.

50. What proportion of your enlisted female patients who are deployed do you see for a **predeployment** medical appointment?

- ☐ All or nearly all
- ☐ Most
- ☐ About half
- ☐ Some
- ☐ Few
- ☐ None
- ☐ I am not responsible for predeployment care.

51. What do you do to prepare enlisted female patients for their reproductive health needs **during predeployment planning**? (Check all that apply.)

- ☐ Pregnancy testing
- ☐ Contraceptive education/counseling
- ☐ STD prevention education
- ☐ Prescription medication review
- ☐ Education on hygiene practices
- ☐ None
- ☐ Other: _____
- ☐ I am not responsible for predeployment care.

52. What prevents you from providing **predeployment contraceptive education and counseling** to enlisted female patients? (Check all that apply.)

- ☐ I provide this service to all patients.
- ☐ Not needed by all patients
- ☐ No time
- ☐ Lack of staff
- ☐ Lack of skills
- ☐ Lack of comfort
- ☐ No policy making this standard care.
- ☐ Not effective
- ☐ Other: _____
- ☐ I am not responsible for predeployment care.

53. What prevents you from providing **personal hygiene information** to enlisted female patients during predeployment planning? (Check all that apply.)

- ☐ I provide this service to all patients.
- ☐ Not needed by all enlisted women
- ☐ No time
- ☐ Lack of staff
- ☐ Lack of skills
- ☐ Lack of comfort
- ☐ No policy making this standard care.
- ☐ Not effective
- ☐ Other: _____
- ☐ I am not responsible for predeployment care.

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54. What prevents you from providing **STD prevention counseling** and education to enlisted female patients during **predeployment** planning? **(Check all that apply.)**

- ☐ I provide this service to all patients.
- ☐ Not needed by all enlisted women
- ☐ No time
- ☐ Lack of staff
- ☐ Lack of skills
- ☐ Lack of comfort
- ☐ No policy making this standard care.
- ☐ Not effective
- ☐ Other: _____
- ☐ I am not responsible for predeployment care.

The next 4 questions ask about care you have given to enlisted women during deployment.

55. What do you do to educate **individual** enlisted female patients about their reproductive health needs **during deployment**? **(Check all that apply.)**

- ☐ Contraceptive education/counseling
- ☐ STD prevention education
- ☐ Education on hygiene practices
- ☐ None
- ☐ Other: _____
- ☐ I have not participated in a deployment with women.

56. What do you do to educate enlisted female patients **as a group** about their reproductive health needs **during deployment**? **(Check all that apply.)**

- ☐ Contraceptive education/counseling
- ☐ STD prevention education
- ☐ Education on hygiene practices
- ☐ None
- ☐ Other: _____
- ☐ I have not participated in a deployment with women.

57. What do you do when treating enlisted female patients with their reproductive health needs **during deployment**? **(Check all that apply.)**

- ☐ Sexual history taking
- ☐ Pregnancy testing
- ☐ Contraceptive education/counseling
- ☐ STD prevention education
- ☐ Education on hygiene practices
- ☐ Treatment of acute infection
- ☐ Dispense oral contraceptive
- ☐ None
- ☐ Other: _____
- ☐ I have not participated in a deployment with women.

58. What medical and hygiene supplies are **routinely available** to you during deployment to care for the reproductive health needs of enlisted women? **(Check all that apply.)**

- ☐ I am not responsible for OB/GYN deployment care.
- ☐ Oral contraceptives
- ☐ Depo Provera injections
- ☐ Condoms
- ☐ Unscented tampons
- ☐ Unscented panty liners
- ☐ Unscented wet-wipes
- ☐ Yeast infection medication
- ☐ Female urinary director
- ☐ Other: _____

Health Care Provider Survey: Health Needs of Enlisted Army and Navy Women

Put an X in the box that most closely shows your opinion about the medical care enlisted women receive in the military.

59. Very Positive ☐ ☐ ☐ ☐ ☐ ☐ ☐ Very Negative
60. Low Quality ☐ ☐ ☐ ☐ ☐ ☐ ☐ High Quality
61. Easy to get appointments ☐ ☐ ☐ ☐ ☐ ☐ ☐ Hard to get appointments
62. Overdue test results ☐ ☐ ☐ ☐ ☐ ☐ ☐ Timely test results
63. Confidential ☐ ☐ ☐ ☐ ☐ ☐ ☐ Not confidential
64. Competent staff ☐ ☐ ☐ ☐ ☐ ☐ ☐ Incompetent staff
65. Inadequate time with clinician ☐ ☐ ☐ ☐ ☐ ☐ ☐ Adequate time with clinician
66. Hard to talk to clinician ☐ ☐ ☐ ☐ ☐ ☐ ☐ Easy to talk to clinician

IV. Health Education—We are interested in how you feel about the health education that enlisted women receive in the military in general. Please answer the following questions:

67. On which reproductive health topics have you ever given a class (or presentation) to enlisted female patients? **(Check all that apply.)**

- ☐ Alcohol and other drug use prevention
- ☐ Birth control/family planning
- ☐ STD prevention
- ☐ AIDS or HIV infection prevention
- ☐ Prevention of vaginal infections
- ☐ Personal hygiene
- ☐ Empowerment/assertiveness training
- ☐ I have never presented information on any of these topics to enlisted women.

68. Which **written** health education materials have you given to enlisted female patients about their health? **(Check all that apply.)**

- ☐ Alcohol and other drug use prevention
- ☐ Birth control/family planning
- ☐ STD prevention
- ☐ AIDS or HIV infection prevention
- ☐ Prevention of vaginal infections
- ☐ Empowerment/assertiveness training
- ☐ Personal hygiene
- ☐ I have never given written information on these topics to enlisted women.

Health Care Provider Survey: Health Needs of Enlisted Army and Navy Women

69. Which **video/audio** health education materials have you used to teach enlisted female patients about their health? **(Check all that apply.)**

- ☐ Alcohol and other drug use prevention
- ☐ Birth control/family planning
- ☐ STD prevention
- ☐ AIDS or HIV infection prevention
- ☐ Prevention of vaginal infections
- ☐ Personal hygiene
- ☐ Empowerment/assertiveness training
- ☐ I have never given video or audio information on these topics to enlisted women.

70. Which **computer-based** health education materials have you used to teach enlisted female patients about their health? **(Check all that apply.)**

- ☐ Alcohol and other drug use prevention
- ☐ Birth control/family planning
- ☐ STD prevention
- ☐ AIDS or HIV infection prevention
- ☐ Prevention of vaginal infections
- ☐ Personal hygiene
- ☐ Empowerment/assertiveness training
- ☐ I have never given computer-based information on these topics to enlisted women.

71. Choose the statement that best describes the **quality of contraceptive education** enlisted women receive:

- ☐ Very good
- ☐ Good
- ☐ Neither good nor bad
- ☐ Bad
- ☐ Very bad

72. Choose the statement that best describes the **amount of contraceptive education** enlisted women receive:

- ☐ Too much
- ☐ Right amount
- ☐ Too little

73. Choose the statement that best describes the **quality of STD prevention education** enlisted women receive:

- ☐ Very good
- ☐ Good
- ☐ Neither good nor bad
- ☐ Bad
- ☐ Very bad

74. Choose the statement that best describes the **amount of STD prevention education** enlisted women receive:

- ☐ Too much
- ☐ Right amount
- ☐ Too little

75. Choose the statement that best describes the **quality of personal hygiene education** enlisted women receive:

- ☐ Very good
- ☐ Good
- ☐ Neither good nor bad
- ☐ Bad
- ☐ Very bad

76. Choose the statement that best describes the **amount of personal hygiene education** enlisted women receive:

- ☐ Too much
- ☐ Right amount
- ☐ Too little

77. Choose the statement that best describes the **quality of empowerment/assertiveness skill training** enlisted women receive:

- ☐ Very good
- ☐ Good
- ☐ Neither good nor bad
- ☐ Bad
- ☐ Very bad

78. Choose the statement that best describes the **amount of empowerment/assertiveness skill training** enlisted women receive:

- ☐ Too much
- ☐ Right amount
- ☐ Too little

Appendix B
Needs Assessment Survey of Military Chiefs of Service

Needs Assessment Survey: Health Education of Enlisted Army and Navy Women

This survey is about health education and health services as they pertain to the reproductive health needs of enlisted women in the U.S. Army and Navy. The information you provide will help identify the kind of health programs and services enlisted women in the Army and Navy need.

Do not write your name or any other identifying information on this survey.

Privacy Act Statement

Needs Assessment Survey among Military Clinicians

Authority: 10 U.S.C. §136 and §2358

Principal Purpose(s): To assess the range of reproductive health education efforts and needs of enlisted women in the armed services.

Routine Use(s): None. (Data concerning individual participants and their survey answers will not be distributed outside the DoD or its contractors.)

Disclosure: Voluntary. There is no penalty if you choose not to respond. However, maximum participation is encouraged so that the data will be complete and representative.

I. Demographics

1. Age: _____ Years
2. Sex: ☐ Female
☐ Male
3. Race/Ethnicity:
☐ White - not Hispanic
☐ Black - not Hispanic
☐ Hispanic or Latino
☐ Asian or Pacific Islander
☐ American Indian/Alaskan Native
☐ Other (specify): _____
4. Service Branch:
☐ Army
☐ Navy
☐ Other (Specify): _____
5. Your title:
☐ Chairperson
☐ Troop Clinic Commander
☐ Senior Medical Officer
☐ Other (Specify): _____
6. Department:
☐ Family Practice
☐ Internal Medicine
☐ Obstetrics/Gynecology
☐ Preventive Medicine
☐ Active Duty Medical Clinic/Sick Call
☐ Other (Specify): _____
7. Where is your service/department located?
☐ In a teaching medical center
☐ In a community hospital
☐ In a freestanding clinic
☐ Other (Specify): _____
8. Year medical training completed:
Medical School: 19 ____
Residency: 19 ____
9. Have you had training in health care as it pertains to readiness?
☐ Yes
☐ No
10. What type of deployment experience do you have? **(Check all that apply.)**
☐ None
☐ Field training exercises
☐ Combat duty
☐ Humanitarian missions
☐ Other (Specify): _____
11. On average, how many outpatient visits does your department have **per month**?

12. What proportion of your patients are enlisted women?
☐ All or nearly all (81-100%)
☐ Most (61-80%)
☐ About half (41-60%)
☐ Some (21-40%)
☐ Few (1-20%)
☐ None (0%)
13. What is the primary mission of your base/post? **(Check all that apply.)**
☐ Deployment
☐ Basic training
☐ Education
☐ Other (Specify): _____
14. What other departments provide routine gynecologic care to enlisted Army/Navy women?
☐ Family Practice
☐ Internal Medicine
☐ Obstetrics/Gynecology
☐ Preventive Medicine
☐ Active Duty Medical Clinic
☐ Other (Specify): _____

Needs Assessment Survey: Health Education of Enlisted Army and Navy Women

II. Reproductive Health of Enlisted Women—Please answer the following questions on the basis of your clinical experience with enlisted female patients in the Army or Navy.

15. Check one only in each row: In your experience, what **reproductive health problem** among enlisted women is. . .

	STD infection	Unintended pregnancy	Spontaneous Abortion	Ectopic pregnancy	Vaginal Infection (non-STD)	Urinary tract infection	Other (Specify)
most common overall?							
most serious overall?							
most common in the field environment?							
most serious in the field environment?							

16. Check one only in each row: In your experience, what is the **most common reason** that enlisted women. . .

	Lack of knowledge	Lack of skills	Negative attitudes about preventive behaviors	Negative Partner's attitudes	Lack of perceived risk	Low self-confidence	Other (Specify)
do not practice safer sex?							
have unintentional pregnancies?							
get non-STD vaginal infections (yeast, etc.)?							

III. Health Services—The following questions ask about the types of health services your department offers to all enlisted female patients during **routine** health care appointments (annual Pap tests) and during **predeployment planning in the last 6 months**.

17. What does your department do routinely for enlisted female patients **during annual exams**? (Check all that apply.)

- ☐ Contraceptive education and counseling
- ☐ Sexual history taking
- ☐ STD prevention education
- ☐ Education on hygiene practices
- ☐ HIV testing
- ☐ None of the above
- ☐ Unknown

Needs Assessment Survey: Health Education of Enlisted Army and Navy Women

18. **Check all that apply in each row:** Which of the following are obstacles to providing routine. . .

	Lack of time	Lack of staff	Lack of skilled staff	Not all patients need	Lack of comfort	Not effective	No policy making this standard care	Other (Specify)
contraceptive education/counseling?								
sexual history taking?								
STD prevention education?								
personal hygiene information?								

19. What proportion of your enlisted female patients come to your department for a **predeployment medical appointment**?

- ☐ All or nearly all
- ☐ Most
- ☐ About half
- ☐ Some
- ☐ Few
- ☐ None
- ☐ Unknown
- ☐ Not responsible for predeployment care (skip to question 23).

20. **During predeployment planning**, what does your department do routinely to help prepare enlisted female patients for their deployment reproductive health needs? (**Check all that apply.**)

- ☐ Pregnancy testing
- ☐ Contraceptive education and counseling
- ☐ STD prevention education
- ☐ Prescription medication review
- ☐ Recommend supplies for period
- ☐ Education on hygiene practices
- ☐ No special preparation for deployment
- ☐ Unknown

21. **Check all that apply in each row:** At predeployment, which of the following are obstacles to providing. . .

	Lack of time	Lack of staff	Lack of skilled staff	Not needed by all patients	Lack of comfort	Not effective	No policy making this standard care	Other (Specify)
contraceptive education/counseling?								
sexual history taking?								
STD prevention education?								
personal hygiene education?								

22. **During predeployment planning**, what medical and hygiene supplies does your department **recommend** be supplied to units for the reproductive health needs of enlisted women? (**Check all that apply, and add others not listed.**)

- ☐ Not responsible for medical supplies.
- ☐ Oral contraceptives
- ☐ Unscented tampons
- ☐ Unscented panty liners
- ☐ Unscented wet-wipes
- ☐ Yeast infection medication
- ☐ Female urinary director
- ☐ Other: _____

☐ _____
Unknown

Needs Assessment Survey: Health Education of Enlisted Army and Navy Women

IV. Health Education—We are interested in how you feel about the health care and the health education that enlisted women receive in the military.

23. In each row, check all media that apply: On which of the following health topics has your department provided education to enlisted women in the past year?

	Course or presentation	Written materials	Video or audiotaped instruction	Computer-based instruction	None	Unknown
Alcohol and other drug use prevention						
Birth control/family planning						
STD prevention education						
AIDS or HIV infection prevention						
Prevention of vaginal infections						
Personal hygiene						
Empowerment/assertiveness skills						

24. In each row, check one box in each area: Rate the health education that enlisted women receive in the military.

	Quality					Amount		
	Very Bad	Bad	Neither Good nor Bad	Good	Very Good	Too Little	Right Amount	Too Much
Contraceptive education								
STD prevention education								
Personal hygiene education								
Empowerment/assertiveness skill training								
Other:								

25. Other comments about enlisted women's reproductive health? (Please describe briefly below.)

APPENDIX E

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Secondary Analysis of the 1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel

March 1999

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Introduction

A secondary analysis of demographic and health behavior data was conducted for 2,957 women who responded to the *1995 Department of Defense Survey of Health Related Behaviors Among Military Personnel*. The analysis was conducted in order to determine the factors that contribute to sexually transmitted disease (STD) infection, pregnancy, and regular Pap test screening among women in the U.S. Armed Forces. Results indicated that multiple factors, both demographic and behavioral, were related to pregnancy on active duty, STD infection, and frequency of Pap test screening among both single and married enlisted women.

The secondary analysis discussed in this report was part of a larger needs assessment conducted for the project, "CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women." Technical objectives of the secondary analysis that relate to the overall needs assessment were:

- 1) To assess the most pressing reproductive and gynecological self-care education needs of enlisted women on base and in the field.

In order to address this first technical objective, bivariate and univariate analyses of various factors expected to affect history of STD infection, Pap test screening history, and pregnancy on active duty were conducted (i.e. chi-squares, t-tests, one-way ANOVAs). The secondary analysis then examined factors most related to reproductive health problems using a discriminant analysis strategy with each of the dependent variables (STD history, Pap test screening, and pregnancy on active duty).

- 2) To assess the current health education efforts for enlisted women.

Items examining attitudes toward military health education programs (i.e., alcohol education program, drug education, and STD education) were analyzed to determine the factors related to these programs that were perceived as effective by enlisted Army and Navy women. Additionally, comparisons were made between services (Army and Navy), enlisted women versus officers, and males versus females with regard to ratings of the three military health education programs.

Additionally, because the study was funded to address reproductive health issues of enlisted women, we examined the data to see if enlisted women differed from female officers on specific behavioral risk variables.

Methodology

Primary Data Collection

The *1995 DoD Survey of Health Related Behaviors Among Military Personnel* was the sixth in a series of surveys of active-duty military personnel. The survey included questions to assess the prevalence of substance use, health behaviors, and related issues. The survey also investigated several health issues that may affect the readiness of military women, including stress, access to and satisfaction with obstetrics and gynecological (OB/GYN) care, and history of pregnancy and STD infection.

The final sample consisted of 16,193 military personnel who completed self-administered questionnaires anonymously. Data were collected primarily during group sessions at military installations or by mail for those not attending the sessions.

Secondary Data Collection and Analyses

In order to inform the development of a health education intervention for enlisted women, a secondary analysis of data from the *1995 DoD Survey of Health Related Behaviors Among Military Personnel* was conducted. Although the 1995 survey included data on both males and females from all four services (Army, Navy, Air Force, and Marines) and included both officers and enlisted personnel, analyses for this study were conducted primarily to examine the subsample of enlisted women in the Army and Navy.

The primary analyses were limited to enlisted women in the Army and Navy for the following reasons:

- The study was funded to examine the specific health education needs of enlisted women in the Army and Navy.
- The findings were to be used to develop an intervention directed at reducing reproductive health problems specific to women.
- We planned to compare the findings with the qualitative needs assessments data collected for the project, which was limited to the Army and Navy.
- We assumed that educational interventions targeting enlisted personnel would differ from educational interventions for officers, because enlisted women were at increased risk of reproductive health problems and had different educational needs than female officers.

Data on age, years of military service, education level, lifetime STD infection, pregnancy during active duty, and Pap test screening behavior were compared for enlisted women and female officers to test our assumption that enlisted women have a significantly greater need for reproductive health education.

We examined several factors that may be related to enlisted women's history of STD infection, Pap test screening, and pregnancy while on active duty, including sexual risk behavior, alcohol

consumption, stress factors, and military health education. Unless otherwise indicated, all analyses were conducted on the subsample of enlisted women in the Army and Navy who completed the *1995 DoD Survey of Health Related Behaviors Among Military Personnel*. The secondary analysis included the following:

- ▶ Univariate analysis of individual items (means, standard deviations, percentages) for women in the Army and Navy.
- ▶ Bivariate analysis (crosstabs, correlations, t-tests) to examine relationships among variables and look for significant differences between enlisted women and female officers and between enlisted women in the Army and the Navy.
- ▶ Discriminant analyses with three dependent variables (STD history, Pap test screening behavior, reported pregnancy on active duty) to determine which factors were most related to reproductive health problems. (Variables entered into the equation are listed in Figure 1.) A discriminant analysis with the same factors was used to determine factors related to satisfaction with the STD education at the woman's current installation.
- ▶ Univariate (percentages) and bivariate (crosstabs, correlations) analysis of items examining attitudes toward military health education programs (i.e., alcohol education program, drug education, and STD education) to determine if these programs are perceived to be effective by enlisted Army and Navy women and to compare differences in ratings of these programs between services, enlisted personnel and officers, and males and females.

Figure 1 lists the factors that were included in the discriminant analyses. The factors are grouped by the following categories: demographics, military service, use and abuse of alcohol, use and abuse of tobacco, stress, sexual behavior, health status, and military health care delivery.

Figure 1: Factors Included in Discriminant Analyses

Demographics	<ul style="list-style-type: none"> ▶ Service ▶ Pay grade ▶ Education level ▶ Age ▶ Race 	<ul style="list-style-type: none"> ▶ Type of housing ▶ Marital status ▶ Whether or not resides with spouse ▶ Whether or not resides with children (excluded from pregnancy analysis)
Military Service	<ul style="list-style-type: none"> ▶ Number of days deployed past month ▶ Time since last deployment ▶ Number of months at present post 	<ul style="list-style-type: none"> ▶ Military job ▶ Level of satisfaction with military job ▶ Number of months on active duty
Use and Abuse of Alcohol	<ul style="list-style-type: none"> ▶ Number of days drank beer in past month ▶ Number of days drank wine in past month ▶ Number of days drank liquor in past month ▶ Quantity of beer drunk on a typical drinking day ▶ Quantity of wine drunk on a typical drinking day ▶ Quantity of liquor drunk on a typical drinking day ▶ Number of days had 8 or more drinks of beer in past year ▶ Number of days had 8 or more drinks of wine in past year ▶ Number of days had 8 or more drinks of liquor in past year ▶ Whether drinking more, less, or the same as before enlisting 	
Use and Abuse of Tobacco	<ul style="list-style-type: none"> ▶ Age respondent began smoking ▶ Number of years smoking 	<ul style="list-style-type: none"> ▶ Last time smoked a cigarette ▶ Number of cigarettes smoked daily
Sexual Behavior	<ul style="list-style-type: none"> ▶ Number of lifetime sex partners ▶ Number of sex partners in past year ▶ Time since last intercourse 	<ul style="list-style-type: none"> ▶ Condom use at last intercourse ▶ Frequency of condom use ▶ Frequency of intercourse
Stress	<ul style="list-style-type: none"> ▶ Amount of stress at work in past year ▶ Amount of stress resulting from deployment ▶ Amount of stress resulting from concern about being separated from military ▶ Amount of stress caused by separation from family ▶ Amount of stress caused by conflicts between work/family responsibilities ▶ Amount of stress resulting from being a woman in the military ▶ Amount of stress caused by health problems ▶ When under stress, how often respondent exercises ▶ When under stress, how often respondent talks to friend or family member ▶ When under stress, how often respondent eats ▶ When under stress, how often respondent lights up a cigarette ▶ When under stress, how often respondent has a drink ▶ When under stress, how often respondent uses marijuana or other illegal drugs ▶ When under stress, how often respondent thinks of a plan to solve problem ▶ When under stress, how often respondent thinks of hurting or killing self 	
Health Status	<ul style="list-style-type: none"> • Overall health rating ▶ How often respondent had an illness of 1 week or more in the past year ▶ Frequency of health problems in past year ▶ Frequency of ER visits in past year ▶ Frequency of outpatient visits to a military facility in past year 	<ul style="list-style-type: none"> ▶ Frequency of outpatient visits to a civilian facility in past year ▶ Frequency of visits to a specialist in past year ▶ Reported STD infection in past year ▶ Frequency of illness/ injury in past month • Number of months since last Pap test
Military Health Care	<ul style="list-style-type: none"> ▶ Ease obtaining military health care ▶ Ease obtaining health care at installation ▶ Satisfaction with health care quality ▶ Agreement that STD education helpful 	<ul style="list-style-type: none"> ▶ Ease obtaining military OB/GYN care ▶ Ease obtaining OB/GYN care at installation ▶ Satisfaction with quality of OB/GYN care at installation

Results

Demographics

Out of a total of 16,122 respondents, 2,937 were female (18.3%) and 13,165 were male (81.7%). A total of 616 of the women were officers, leaving 2,341 enlisted female respondents in all four branches of the military. Tables 1 and 2 display demographic data for the enlisted female respondents to the 1995 survey who were in the Army (N=529) and Navy (N=693).

Most enlisted women responding to this survey had received some college education. Education levels of the enlisted females in the Army were significantly higher than education levels for the comparable Navy group. An examination of the percentages shows that the difference in education levels between services was largely explained by the greater likelihood that enlisted Army women had received some college education.

The racial breakdown of enlisted females reveals that blacks represented the largest proportion of women in the Army. Among Navy women, however, the largest proportion was white. The difference between services in the proportion of enlisted black female respondents mostly explains the significant difference in racial make up between the two services.

Most enlisted female respondents from both services were in the mid-range pay grades, between E3 and E5. A significant difference between services was found for pay grade. Percentages indicate that enlisted female respondents in one service were not more likely to be in a higher pay grade than women in the other service. Rather, proportions of Army and Navy women at a specific pay grade differed markedly. For example, by far the largest proportion of Army women were E-4s, whereas most Navy women tended to be spread fairly evenly across pay grades E-3 through E-5.

Table 1 also shows that enlisted women in the two services did not differ significantly in age. Mean age for the entire sample was 27.9 years. The enlisted Army and Navy women had comparable mean ages, 28.35 years of age (s.d.=7.44) in the Army and 27.55 years of age (s.d.=7.21) in the Navy. In both services, nearly half of the respondents were 25 years of age or younger. These findings also show that the sample population reflects similar ages as those in the enlisted female population the entire Army and Navy (Defense Manpower Data Center, 1995).

About half of the enlisted women in the Army and Navy responding to the survey were married. About one-third from each service were single and never married. No significant differences in marital status were found between services. Further analysis indicated that the services did not differ significantly in the proportion of married enlisted women.

Although enlisted women in the two services did not differ by marital status, they did differ significantly in the proportion reporting that they currently residing with a spouse or children (see Table 2). Navy women were much more likely to be living with their spouse than were Army women. Similarly, enlisted women in the two services differed significantly in the proportion who were currently residing with children. Women in the two services did not differ significantly in the proportion who reported having children. However, Army women were more likely to report that they did not currently reside with their children.

Table 1: Demographic Characteristics of Enlisted Women Respondents (N=1,222)		
	Army	Navy
Total N	529	693
Category	N (%)	N (%)
Education**		
Did not graduate from H.S.	1 (0.2)	3 (0.4)
High school graduate or equivalent	137 (25.9)	294 (42.4)
Some postsecondary education	344 (65.0)	351 (50.6)
4-year college degree	33 (6.2)	35 (5.1)
Graduate or professional study	14 (2.6)	10 (1.4)
Race**		
Black	238 (45.0)	156 (22.5)
Caucasian	227 (42.9)	453 (65.4)
Asian/Pacific Islander	13 (2.5)	27 (3.9)
American Indian	6 (1.1)	11 (1.6)
Other	45 (8.5)	46 (6.6)
Hispanic Origin		
Not Hispanic	490 (92.6)	629 (90.8)
Hispanic	39 (7.4)	64 (9.2)
Pay Grade*		
E1	3 (0.6)	23 (3.3)
E2	24 (4.5)	63 (9.1)
E3	79 (14.9)	143 (20.6)
E4	170 (32.1)	132 (19.0)
E5	89 (16.8)	133 (19.2)
E6	51 (9.6)	94 (13.6)
E7	88 (16.6)	73 (10.5)
E8	24 (4.5)	28 (4.0)
E9	1 (0.2)	4 (0.6)
Age Group		
≤20	76 (14.4)	139 (20.1)
21-25	167 (31.6)	200 (28.9)
26-30	85 (16.1)	116 (16.7)
31-35	98 (18.5)	118 (17.0)
36-40	72 (13.6)	86 (12.4)
41+	31 (5.9)	34 (4.9)
Marital Status		
Married	257 (48.9)	345 (50.0)
Separated	38 (7.2)	34 (4.9)
Divorced	69 (13.1)	61 (8.8)
Widowed	0 (0.0)	6 (0.9)
Single	162 (30.8)	244 (35.4)

* Difference between services significant at $p < .005$

**Difference between services significant at $p < .001$

Table 2: Residential Characteristics of Enlisted Women Respondents (N=1,222)		
	Army	Navy
Total N	529	693
Category	N (%)	N (%)
Living with spouse?**		
Yes	39.3	45.9
No	18.2	9.0
No spouse	42.4	45.1
Living with children?**		
Yes	39.7	42.9
No	21.8	13.4
No children	38.5	43.6

**Difference between services significant at $p < .001$

The mean number of months on active duty for the entire sample of enlisted women in the Army and Navy was 86.01. The Army enlisted women had an average of 85.5 months on active duty (s.d.=76.89), and the enlisted women in the Navy had an average of 86.4 months on active duty (s.d.=74.52). The large standard deviations suggest that the range in number of months on active duty was large among respondents. Mean number of months on active duty for the enlisted women did not differ significantly by service.

Health History

Further descriptive statistics were calculated for selected health history variables of the enlisted female respondents in the Army and Navy. These included prior pregnancy, pregnancy which occurred while on active duty, lifetime history of an STD infection, STD infection in the past year, and adherence to Pap test screening recommendations. Table 3 summarizes the percentage of respondents in the Army and Navy who responded positively to the health history question.

Some women were unsure if they were pregnant at the time of the survey or did not answer questions in such a way as to ascertain their pregnancy status while in the military. These women were assumed to never have been pregnant nor to have been pregnant while on active duty for the purpose of these analyses. According to these data, enlisted women in the Army and Navy did not significantly differ in their rates of pregnancy while on active duty. However, those in the Army were significantly more likely to have ever been pregnant.

When examining STD infection history, approximately one-fourth of enlisted women self-reported having had an infection in their lifetimes. Although the proportion of Army women responding that they had a previous STD infection was larger than Navy women responding positively, this difference was not statistically significant. Women in the two services also reported similar proportions of STD infection in the past year (6.4% in the Army and 7.0% in the Navy).

Table 3: Selected Health History Characteristics of Enlisted Women Respondents (N=1,222)		
	Army	Navy
Category	N (%)	N (%)
Prior Pregnancy *	337 (63.9)	396 (57.6)
Pregnancy on Active Duty	157 (29.7)	207 (29.9)
Lifetime History of STD	160 (30.9)	178 (26.3)
STD Infection in Past Year	33 (6.4)	47 (7.0)
Adherent to ACS Pap Test Recommendations (every 3 years)	479 (93.7)	654 (96.2)
Total N	529	693

* Difference between services significant at $p < .05$.

For the purpose of these analyses, Pap test screening recommendations were defined as those from the American Cancer Society (ACS) stipulating that women have a Pap test every three years unless directed otherwise by their doctors. Therefore, women who had been screened in the past 3 years were defined as adherent. Results show that more than 90 percent of enlisted women in the Army and Navy were adherent to ACS Pap test screening recommendations. The services did not differ significantly in Pap test screening adherence.

Comparisons Between Enlisted Women and Female Officers

Analyses were also conducted to determine whether significant differences existed between women in the Army and Navy and between enlisted women and female officers for selected demographic and health history variables. Chi-square tests were used to determine these groups of women differed significantly with regard to the percentage with a college degree. Two-way ANOVAs were used to determine whether these groups differed significantly on age and number of months on active duty.

Table 4 shows that the sample of active duty women differed significantly on mean age, total months on active duty, and education level. A two-way ANOVA showed that women's ages differed significantly across both service ($F=4.49$; $p=.034$) and rank ($F=256.73$; $p<.000$), but there was no interaction between the two independent variables. Active duty women also differed significantly in total months on active duty, but only by rank ($F=59.83$; $p<.000$). Chi-square tests showed that enlisted women and female officers in both services differed significantly by education level. Table 3 illustrates the stark difference in education level between enlisted women by showing the percentage of respondents who had a college degree. These findings show that, compared with female officers, enlisted women were significantly younger, had less time on active duty, and had less formal education.

Table 4: Selected Demographic Characteristics of Female Respondents by Service and Rank (N=1,550)				
Category	Army		Navy	
	Enlisted	Officer	Enlisted	Officer
Mean Age *	28.4	35.7	27.6	34.6
Mean months of active duty **	85.5	130.5	86.4	115.8
Percentage with a college degree **	8.8%	89.8%	6.5%	93.0%
Total N	529	157	693	171

* Difference was significant by service and rank.

** Difference was significant by rank.

Data from the 1995 DoD Survey of Health Related Behaviors Among Military Personnel also suggested that, relative to female officers, enlisted women had a greater need for reproductive health education interventions designed to reduce STD infection and unintended pregnancy. An analysis of data on pregnancy, STD infection, and Pap test screening among females in the Army and Navy indicated that enlisted female respondents had significantly higher rates of STD infection and pregnancy relative to female officer respondents (see Table 5). However, officers and enlisted females did not differ significantly in their adherence to Pap test screening guidelines.

Table 5: Selected Health History Characteristics of Female Respondents by Service and Rank (N=1,550)				
Category	Army		Navy	
	Enlisted N (%)	Officer N (%)	Enlisted N (%)	Officer N (%)
Prior Pregnancy **	337 (63.7)	87 (55.4)	396 (57.1)	79 (46.2)
Pregnancy on Active Duty *	157 (29.7)	32 (20.4)	207 (29.9)	34 (19.9)
Lifetime History of STD *	160 (30.2)	29 (18.5)	178 (25.7)	29 (17.0)
STD Infection in Past Year ***	33 (6.2)	5 (3.2)	47 (6.8)	3 (1.8)
Adherent to Pap Test Recommendations	479 (90.5)	149 (94.9)	654 (94.4)	163 (95.3)
Total N	529	157	693	171

* Difference significant for both services.

** Difference significant for Army only.

*** Difference significant for Navy only.

Reproductive Health Related Factors

Preliminary multivariate analyses were conducted to examine the contribution of demographic and behavioral factors to the prediction of three reproductive health conditions/issues of interest: 1) lifetime STD infection, 2) pregnancy during active duty, and 3) recent Pap test screening. The first dependent variable, "Lifetime STD," indicates whether the respondent reported ever having an STD in her lifetime. The second dependent variable, "Pregnancy on Active Duty," indicates whether or not the respondent has been pregnant while on active duty ("uncertain" indicates that the respondent either indicated she is unsure whether or not she has been or was pregnant or did not respond to this question). The third dependent variable, "Pap Test Screening," indicated the reported period of time since the respondent's last Pap test. The rows represent the independent variables that were into the discriminant function of at least one dependent variable. Table 6 presents the results of discriminant analyses using the data for enlisted females in the Army and Navy from the 1995 DoD Survey of Health Related Behaviors among Military Personnel (N= 1,222).

Table 6: Discriminant Analysis Findings for Factors Significantly Related to Variables of Interest for All Enlisted Women in the Army and Navy (N=1,222)

Factors	Lifetime STD F score (significance)	Pregnancy on active duty F score (significance)	Pap Test Screening F score (significance)
Service	N/A	N/A	9.32 (.000)
Whether drinking more, less, or the same as before enlisting	N/A	8.46 (.000)	N/A
Number of months on active duty	N/A	15.35 (.000)	N/A
Number of months since last Pap test	N/A	7.10 (.000)	N/A
Number of months at present post	N/A	N/A	12.35 (.000)
Satisfaction with quality of OB/GYN care received at installation	N/A	N/A	19.66 (.000)
Amount of stress experienced as woman in the military	N/A	N/A	10.61 (.000)
Overall health rating	7.85 (.001)	10.16 (.000)	N/A
How often eats to relieve stress	6.54 (.000)	N/A	N/A
Lifetime number of sex partners	8.44 (.004)	7.57 (.000)	N/A
Agreement that STD education at post was helpful	6.92 (.000)	N/A	N/A

N/A – Nonsignificant finding.

These data show that the respondent's lifetime number of sexual partners and overall health rating were related to both reported lifetime STD infection and reported pregnancy while on active duty. Aside from these two variables, the variables that related to categories for each dependent variable were different.

- ▶ **Lifetime STD Infection:** Two variables indicative of the respondent's general health (overall health rating and eating when stressed) appeared related to lifetime STD infection. Number of sex partners and response to education on STDs was also related to lifetime STD infection.
- ▶ **Pregnancy on Active Duty:** Health risk behavior variables—number of sex partners, time since last pelvic exam/Pap test, and drinking behavior—appeared most related to this health issue. With the exception of lifetime number of sex partners, women who reported being pregnant on active duty were more likely to report positive health behaviors such as recent Pap tests and less current drinking. Overall health rating and number of months on active duty were the only other variables related to pregnancy on active duty.
- ▶ **Pap Test Screening:** Variables related to time since last Pap test differed completely from variables that predicted pregnancy and STD infection. Demographic variables (branch of service, time at present post) and variables representing unique concerns of women in the military (stress related to military service and satisfaction with installation OB/GYN care) were related to the time since last Pap test.

Most variables entered into these discriminant analyses did not relate to any of the three dependent variables. For example, several demographic variables that might be expected to be part of the discriminant function did not make a significant contribution when other variables were entered into the functions. No variables related to perceived helpfulness of military alcohol and drug education programs or AIDS knowledge were related to any dependent variable. No variables related to pregnancy history were predictive of lifetime STD infection or time since last Pap test screening.

More detail regarding the variables in each discriminant function is given below in sections corresponding to the analysis for each dependent variable. These tables indicate the ability of each discriminant function to predict the proportion of women falling into each category of a specific dependent variable.

STD-Related Factors

The discriminant analysis function that included four variables (lifetime number of sex partners, overall health rating, how often respondent eats to relieve stress, depression, etc., and level of agreement that the post's STD education program is helpful) was able to correctly classify subjects' responses regarding lifetime history of STD infection 69.8 percent of the time ($F=28.14$, $p<.001$). The results are presented below in Table 7. This function correctly classified about a third (32.4%) of women who reported having had an STD in their lifetime. The model was better at classifying women who reported no STD infection in their lifetime. Among women who reported never having had an STD, 84.8 percent were correctly classified.

Table 7: Predicted group membership among enlisted women for reported STD in lifetime (N= 1,163)			
Actual group	Group N	Yes N (%)	No N (%)
Yes	333	108 (32.4)	225 (67.6)
No	829	126 (15.2)	703 (84.8)
Ungrouped	1	0 (0.0)	1 (100.0)

Further analyses (crosstabs, Spearman correlations, MANOVAs) were conducted post hoc on the four variables in the final model of this discriminant analysis. The purpose of these analyses was to determine the direction of effects for each variable and the how proportions of women in each category differed. These post hoc analyses revealed the following:

- ▶ The more sex partners the respondent reported having had in her lifetime, the more likely she was to report having had an STD either now or in the past. Among women reporting 20 or more sex partners in their lifetime, nearly half (47.6%) reported having had an STD. Over a third (36.5%) of the women reporting 10 to 19 sex partners in their lifetime reported having had an STD. Among women who reported five to nine sex partners in their lifetime, over a quarter (28.7%) reported having had an STD. Among women reporting two to four sex partners in their lifetime, 13.4 percent reported having had an STD. For the entire sample of enlisted women in the Army and Navy, 27.7 percent reported having had an STD. Therefore, women with more than four lifetime sex partners had a higher the average risk of having had an STD relative to the entire population of enlisted women in the Army and Navy.
- ▶ Respondents who rated their overall health as very good or excellent were less likely to report having had an STD in their lifetime. The majority of women who reported having an STD in their lifetime rated their health as poor, fair, or good (54.3%). The majority of women who reported never having an STD in their lifetime rated their health as very good or excellent (56.5%). Although these proportional differences do not appear large, chi-square tests of the relationship between reported lifetime STD and women's ratings of their overall health were also significant with Pearson's $\chi^2 (3) = 13.44, p = .004$.
- ▶ Respondents who reported that they frequently ate to relieve stress also were more likely to report having had an STD. About a third (32.6%) of the respondents who reported frequently eating to relieve stress, depression, etc., also reported having had an STD infection. Conversely, less than a quarter (23.1%) of the respondents who said they never eat to relieve stress, depression, etc. reported having had an STD infection.
- ▶ Respondents who reported having had an STD in their lifetime were more likely to report that the STD education program at their installation was helpful. Post hoc analyses revealed that women who reported having had an STD were not more likely to agree that the STD education program was helpful. Rather, women who reported no STD were most likely to respond "don't know/no opinion" when asked whether they agreed that the installation's STD program was helpful. About a quarter (25.6%) of all respondents who

reported never having had an STD had no opinion about the STD education program at their post compared to 18.1 percent of all respondents who reported having had an STD.

Post hoc univariate analyses revealed no significant relationship between two variables in the final discriminant analysis model and history of STD infection. These variables were: frequency respondent reported eating to relieve stress and level of agreement that the post's STD education program was helpful. Eating to relieve stress and agreement that the post's STD education was helpful were related to the respondents' STD history only when the effects of the other variables were controlled for in a multivariate analysis.

Pregnancy on Active Duty

A discriminant analysis function that included five variables (change in amount of alcohol drunk by respondent since enlistment, total months on active duty, time since last Pap test, overall health rating, and lifetime number of sex partners) was able to correctly classify subjects' responses regarding whether they reported being pregnant on active duty 53.3 percent of the time ($F = 35.89, p < .001$). See Table 8. This model correctly classified over a quarter (29.4%) of women who had been pregnant on active duty. The model correctly classified the majority (51.4%) of women who did not provide sufficient data for determining whether they had been pregnant on active duty. The model primarily served to classify women who had not been pregnant on active duty. The great majority (72.5%) of these women were correctly classified.

Table 8: Predicted group membership among enlisted women for pregnancy during active duty (N = 1,112)				
Actual group	Group N	Yes N (%)	No N (%)	Uncertain N (%)
Yes	350	103 (29.4)	173 (49.4)	74 (21.1)
No	466	72 (15.5)	338 (72.5)	56 (12.0)
Uncertain	296	56 (18.9)	88 (29.7)	152 (51.4)

Post hoc analyses (crosstabs, Spearman correlations, ANOVAs) were conducted on the four variables in the final model for this discriminant analysis to determine the direction of effects for each variable and the how proportions of women in each category differed. The results of these post hoc analyses revealed the following:

- Overall, women with a greater number of lifetime sex partners were more likely to report having been pregnant on active duty than women with fewer partners. The only exception to this general trend was found among women reporting only one lifetime sex partner, the group with the largest proportion of women reporting pregnancy on active duty (48.8%). This discrepancy is explained mostly by responses from married women whose only lifetime sex partner was their spouse. A Pearson's chi-square analysis confirmed that married women were much more likely to report a pregnancy while on active duty than single women ($\chi^2 (1) = 84.62, p < .001$). The majority of married women (59.1%) reported a pregnancy on active duty compared to only 28.1 percent of single women. When married women were eliminated from the sample, crosstabs revealed a steady increase in the proportion of women reporting pregnancy while on active duty as

number of lifetime sex partners increased. Among single enlisted women, only 11.8 percent of women reporting one partner had been pregnant on active duty compared to 40 percent of women reporting 20 or more partners in their lifetime.

- ▶ A lower self-rating of overall health was related to pregnancy on active duty. However, Pearson's chi-square analysis of pregnancy on active duty and overall health self-rating did not approach significance. Since the independent variable (overall health rating) was significant in the final model for the predicting whether the respondent reported being pregnant on active duty, it is possible that the independent variable is related to other independent variables in the original model. Only when the effects of the other variables were controlled for did overall health rating reach significance as a factor in pregnancy on active duty.
- ▶ Greater number of months on active duty was related to pregnancy on active duty. Total number of months on active duty was greatest among women who were either uncertain whether they had been pregnant or who provided no data on pregnancy during active duty ($M=139.9$, $s.d.=77.9$). Among women who provided data, those who had been pregnant on active duty also had more time on active duty ($\bar{x}=80.6$, $s.d.=57.9$). Women who had not been pregnant on active had the lowest mean number of months on active duty ($\bar{x}=53.3$, $s.d.=64.4$).
- ▶ Changes in the quantity of alcohol drunk before and after enlistment were also predictive of pregnancy on active duty. Among women who reported a pregnancy on active duty, the largest proportion (40.7%) reported that they drank before enlisting but did not drink now. Among women who reported no pregnancy on active duty, the largest proportion (52%) reported that they drank about the same amount as before enlisting.
- ▶ Pap test screening within the past year was predictive of pregnancy on active duty. The largest proportion of women who had a Pap test in the past year were those who were pregnant on active duty (81.8%), followed by those who were not pregnant on active duty (74.5%), with women who were uncertain or did not provide data having the lowest rate of Pap test screening in the past year (69.9%).

Pap Test Screening

Table 9 presents the classification results for the discriminant analysis function that included four variables (service, number of months at installation, satisfaction with OB/GYN care at the installation, and amount of stress reported as a result of being a woman in the military) to classify enlisted women regarding the time since their last Pap test. The function was able to correctly classify subjects' responses regarding time since last Pap test 68.2 percent of the time ($F=28.03$, $p<.001$).

Table 9: Predicted group membership among enlisted women for time since last Pap test (N = 1,170)				
Actual group	Group N	Not in past 2 years N (%)	More than 1 year but within past 2 years N (%)	Within the past year N (%)
Not in past 2 years	93	39 (41.9)	12 (12.9)	42 (45.2)
More than 1 year but within past 2 years	193	39 (20.2)	26 (13.5)	128 (66.3)
Within the past year	882	50 (5.7)	100 (11.3)	732 (83.0)
Ungrouped	2	0 (0.0)	0 (0.0)	2 (100.0)

This function correctly classified about a 41.9 percent of women who did not have a Pap test in the past two years. The model did not correctly classify a large proportion of women who had a Pap test more than one year ago but within the past two years. Only 13.5 percent of these respondents were correctly classified. The model was able to classify 83 percent of women who had received a Pap test in the past year.

Post hoc analyses (crosstabs, Spearman correlations, multivariate ANOVAs) were conducted on the four variables in the final discriminant function to determine the direction of effects for each variable and the how proportions of respondents in each category differed. The results of these post hoc analyses revealed the following:

- ▶ Branch of the military (Army vs. Navy) was related to time since last Pap test screening. Larger proportions of Navy women (78.8%) than Army women (71%) reported receiving a Pap test within the past year.
- ▶ Number of months at present post was another demographic variable related to time since last Pap test. Overall, the more months a respondent was at her present post, the more likely she was to have received a Pap test within the past two years. However, Pap test screening rates did not increase steadily as number of months at a post increased. Women who had been at the post one month or less were least likely to report having had a Pap test in the past year (58.3%) or the past two years (83.3%). Women who had been at a post for two to three months were most likely to report having had a Pap test in the past year (92.7%).
- ▶ Higher satisfaction with OB/GYN care at an installation was related to a respondent having had a recent Pap test. Of women who said they were very satisfied with OB/GYN care at their installation, 92.9 percent reported having had a Pap test in the past year. Of women who reported being very dissatisfied with OB/GYN care at their installation, 65.9 percent reported having a Pap test in the past year. Only women who had no opinion about OB/GYN care were lower in the proportion reporting Pap test screening in the last year (49%).
- ▶ Lower levels of reported stress as a result of being a woman in the military were related to higher Pap test screening rates within the past year. Only 67 percent of women who reported a great deal of stress as a result of being a woman in the military reported having

a Pap test in the past year compared to 78.7 percent of women who reported no stress as a result of being a woman in the military. Further, about a fifth (20.4%) of women who reported a great deal of stress resulting from being a woman in the military had not received a Pap test in the past two years.

Perceived Helpfulness of Military Health Education

Women were asked to rate their agreement with statements regarding the helpfulness of military alcohol education and their current installation's drug and STD education. Crosstabs and Pearson Chi-Squares were used to examine the differences in perceived helpfulness of these programs among enlisted women. Differences were examined across service, across gender, and across rank.

Table 10 presents the results of the analyses by service for all enlisted women in the Army and Navy. Results show that there were significant differences across services by service for all of the programs. In general, enlisted women in the Army were more likely to find military education programs unhelpful than those in the Navy.

Table 10: Perceived Helpfulness of Military Health Education Programs Among Enlisted Women Respondents (N=1,222)		
	Army	Navy
Total N	529	693
Category	N (%)	N (%)
Helpfulness of Military Alcohol Education **		
Strongly Disagree	278 (52.6)	276 (39.8)
Disagree	29 (5.5)	50 (7.2)
Don't Know/No Opinion	91 (17.2)	121 (17.5)
Agree	95 (18.0)	173 (25.0)
Strongly Agree	32 (6.0)	67 (9.7)
Missing	4 (0.8)	6 (0.9)
Helpfulness of Installation Drug Education *		
Strongly Disagree	127 (24.0)	166 (24.0)
Disagree	61 (11.5)	45 (6.5)
Don't Know/No Opinion	181 (34.2)	227 (32.8)
Agree	126 (23.8)	188 (27.1)
Strongly Agree	30 (5.7)	65 (9.4)
Missing	4 (0.8)	2 (0.3)
Helpfulness of Installation STD Education		
Strongly Disagree	118 (22.3)	163 (23.5)
Disagree	83 (15.7)	90 (13.0)
Don't Know/No Opinion	122 (23.1)	149 (21.5)
Agree	127 (24.0)	185 (26.7)
Strongly Agree	69 (13.0)	89 (12.8)
Missing	10 (1.9)	17 (2.5)

* p<.01

** p<.001

Table 11 presents results comparing perceived helpfulness of education programs by gender and service for all enlisted respondents. Compared to enlisted male personnel in the Army and Navy, enlisted women in both services were significantly less favorable toward military alcohol education. However, only Navy women were significantly less favorable toward the drug and STD education provided at their installation compared to Navy males.

Table 11: Perceived Helpfulness of Military Health Education Programs Among Enlisted Respondents (N=6,025)				
	Army		Navy	
	Males	Females	Males	Females
Total N	2,108	529	2,695	693
Category	N (%)	N (%)	N (%)	N (%)
Helpfulness of Military Alcohol Education *				
Strongly Disagree	909 (43.1)	278 (52.6)	873 (32.4)	276 (39.8)
Disagree	179 (8.5)	29 (5.5)	248 (9.2)	50 (7.2)
Don't Know/No Opinion	380 (18.0)	91 (17.2)	455 (16.9)	121 (17.5)
Agree	447 (21.2)	95 (18.0)	786 (29.2)	173 (25.0)
Strongly Agree	182 (8.6)	32 (6.0)	320 (11.9)	67 (9.7)
Missing	11 (0.5)	4 (0.8)	13 (0.5)	6 (0.9)
Helpfulness of Military Drug Education **				
Strongly Disagree	460 (21.8)	127 (24.0)	405 (15.0)	166 (24.0)
Disagree	189 (9.0)	61 (11.5)	249 (9.2)	45 (6.5)
Don't Know/No Opinion	709 (33.6)	181 (34.2)	784 (29.1)	227 (32.8)
Agree	566 (26.9)	126 (23.8)	921 (34.2)	188 (27.1)
Strongly Agree	166 (7.9)	30 (5.7)	324 (12.0)	65 (9.4)
Missing	18 (0.8)	4 (0.8)	12 (0.4)	2 (0.3)
Helpfulness of Military STD Education **				
Strongly Disagree	468 (22.2)	118 (22.3)	516 (19.1)	163 (23.5)
Disagree	334 (15.8)	83 (15.7)	318 (11.8)	90 (13.0)
Don't Know/No Opinion	478 (22.7)	122 (23.1)	535 (19.9)	149 (21.5)
Agree	559 (26.5)	127 (24.0)	848 (31.5)	185 (26.7)
Strongly Agree	242 (11.5)	69 (13.0)	426 (15.8)	89 (12.8)
Missing	27 (1.3)	10 (1.9)	52 (1.9)	17 (2.5)

* Difference significant for both services.

** Difference significant for Navy only.

Lastly, we compared the perceived helpfulness of education programs by rank and service for all active duty female respondents (see Table 12). Compared to female officers in the Army and Navy, enlisted women in both services were significantly less favorable toward military alcohol education and STD education provided at their respective installations. However, only enlisted Army women were significantly less favorable than officers toward the drug education provided at their installation.

Table 12: Perceived Helpfulness of Military Health Education Programs Among Female Respondents (N=1,222)				
	Army		Navy	
	Enlisted	Officer	Enlisted	Officer
Total N	529	157	693	171
Category	N (%)	N (%)	N (%)	N (%)
Helpfulness of Military Alcohol Education *				
Strongly Disagree	278 (52.6)	64 (40.8)	276 (39.8)	75 (43.9)
Disagree	29 (5.5)	25 (15.9)	50 (7.2)	11 (6.4)
Don't Know/No Opinion	91 (17.2)	32 (20.4)	121 (17.5)	44 (25.7)
Agree	95 (18.0)	26 (16.6)	173 (25.0)	34 (19.9)
Strongly Agree	32 (6.0)	8 (5.1)	67 (9.7)	4 (2.3)
Missing	4 (0.8)	2 (1.2)	6 (0.9)	3 (1.8)
Helpfulness of Military Drug Education **				
Strongly Disagree	127 (24.0)	53 (33.8)	166 (24.0)	39 (22.8)
Disagree	61 (11.5)	8 (5.1)	45 (6.5)	9 (5.3)
Don't Know/No Opinion	181 (34.2)	44 (28.0)	227 (32.8)	52 (30.4)
Agree	126 (23.8)	44 (28.0)	188 (27.1)	58 (33.9)
Strongly Agree	30 (5.7)	6 (3.8)	65 (9.4)	12 (7.0)
Missing	4 (0.8)	2 (1.3)	2 (0.3)	1 (0.9)
Helpfulness of Military STD Education *				
Strongly Disagree	118 (22.3)	45 (28.7)	163 (23.5)	47 (27.5)
Disagree	83 (15.7)	35 (22.3)	90 (13.0)	27 (15.8)
Don't Know/No Opinion	122 (23.1)	31 (19.7)	149 (21.5)	54 (31.6)
Agree	127 (24.0)	35 (22.3)	185 (26.7)	32 (18.7)
Strongly Agree	69 (13.0)	9 (5.7)	89 (12.8)	7 (4.1)
Missing	10 (1.9)	2 (1.3)	17 (2.5)	4 (2.3)

* Difference significant for both services.

** Difference significant for Army only.

Factors Related to Perceived Helpfulness of STD Education

The factors in Figure 1 were used in a discriminant analysis to determine those related to agreement that the installation's STD education helped the respondent make better decisions about her sexual behavior. The resulting discriminant function included four variables: frequency of condom use in the past year, lifetime number of sex partners, stress related to carrying out military duties, and not being promoted when respondent thought she should have been. See Table 13.

Table 13: Discriminant Analysis Findings for Factors Significantly Related to Perceived Helpfulness of STD Education for Enlisted Women in the Army and Navy (N=1,222)		
Factors	F score	Significance
Condom use frequency in past year	11.22	.000
Lifetime number of sex partners	10.85	.000
Amount of stress experienced as part of carrying out military duties	8.63	.000
Agreement that didn't get promoted when respondent thought she should	7.45	.000

The function was able to correctly classify subjects' responses regarding agreement with the statement "The education I received at this installation about STDs has helped me make better decisions about my sexual behavior" about one third of the time. The results are presented below in Table 14. The model was better at classifying women who strongly agreed that the STD education they received was helpful.

Table 14: Predicted group membership among enlisted women for perceived helpfulness of STD education at installation (N= 1,169)						
Actual group	Group N	Strongly Disagree N (%)	Disagree N (%)	Don't Know N (%)	Agree N (%)	Strongly Agree N (%)
Strongly Disagree	273	140 (51.3)	9 (3.3)	43 (15.8)	77 (28.2)	4 (1.5)
Disagree	168	54 (32.1)	11 (6.5)	39 (23.2)	55 (32.7)	9 (5.4)
Don't Know	267	70 (26.2)	6 (2.2)	75 (28.1)	106 (39.7)	10 (3.7)
Agree	307	94 (30.6)	7 (2.3)	74 (24.1)	123 (40.1)	9 (2.9)
Strongly Agree	154	48 (31.2)	4 (2.6)	18 (11.7)	71 (46.1)	13 (8.4)

Further analyses (crosstabs and chi-squares) were conducted post hoc on the four variables in the final model of this discriminant analysis. The purpose of these analyses was to determine the direction of effects for each variable and the how proportions of women in each category differed. These post hoc analyses revealed the following:

- ▶ Respondents who reported that they never used condoms were more likely to disagree that STD education at the installation was helpful. However, nearly half of every group (strongly agree to strongly disagree) reported never using condoms in the past year. Over third (35%) of those who strongly agreed that the STD education was helpful reported using condoms all or most of the time. frequently ate to relieve stress also were more likely to report having had an STD. Differences in STD education perceptions by condom use frequency were significant ($\chi^2=71.33$; $p=.000$).
- ▶ Women who reported having 10 or more sex partners in their lifetime were more likely to agree that their installation's STD education was helpful. Women with fewer than 10 lifetime sex partners were split in their opinion about their STD education; they were

likely to strongly disagree or agree on its helpfulness. The difference in groups by STD education perception and number of lifetime sex partners was significant ($\chi^2=78.65$; $p=.000$).

- Stress associated with carrying out military duties was significantly related to perceived helpfulness of the installation's STD education ($\chi^2=133.90$; $p=.000$). Respondents who rated their stress level low appeared more likely to disagree that the education was helpful. As stress levels rose, women appeared more likely to rate the STD education more favorably or have no opinion about it.

Conclusions

A secondary analysis was conducted of the *1995 Department of Defense Survey of Health Related Behaviors* to inform the development of education materials based on the reproductive health needs of enlisted women in the Army and Navy. Several demographic variables, stress variables, overall health variables, health care variables, health risk behavior variables, and health education variables were examined as to their relationship to the reproductive health of enlisted women. Three primary variables of interest were examined using discriminant analysis: pregnancy on active duty, sexually transmitted disease infection, and time since last Pap test. A discriminant analysis was also conducted to see what variables were related to perceived helpfulness of STD education.

Sample Characteristics

The enlisted women in the Army and Navy who responded to the 1995 DoD health survey in 1995 were largely young with some college education. Age ranges reflected the population of active duty. Nearly half were married, and one-third were single. While the Navy respondents were mostly Caucasian, enlisted female respondents in the Army were Black and Caucasian. On average, these women had been in the Armed Services for 86 months, or just over 7 years.

Women in the two services had similar health histories in terms of the percentages being pregnant on active duty, prior STD infection (lifetime and in the past year), and adherence to Pap test screening recommendations. However, enlisted in the Army were significantly more likely to have been pregnant in their lifetime.

Our assumptions were that enlisted women were different from female officers on a several key variables was supported. Enlisted women were younger and less educated and had less time on active duty. Except for Pap test screening adherence, enlisted women also exhibited greater need for health education interventions. They were more likely than female officers to have been pregnant, ever or on active duty, and to have had an STD. These findings support the need for educational materials targeted to the needs of enlisted female soldiers and sailors.

STD Infection

The findings revealed that only a few factors discriminated among enlisted women concerning

the likelihood of having had an STD infection. As would be expected, fewer sex partners over the course of the respondents' lifetimes was related to lower prevalence of reported lifetime STD infection among all enlisted women. Better overall health self-ratings also predicted lower prevalence of reported lifetime STD infection among respondents. However, the direction of cause-effect is less clear for this finding since better health may be the result of not having had an STD. Alternatively, a respondent's perception of better overall health may make her less likely to obtain health care and testing that would lead to the diagnosis of an STD infection.

Eating to relieve stress and depression was also related to reported STD infection in the respondent's lifetime. The explanation for this finding is unclear. Women who reported that they rarely or ever eat to relieve stress may have specific characteristics not included in this analysis or survey that make them less vulnerable to either STD infection or make them less likely to get an STD diagnosed. However, the specific findings for stress-related eating are somewhat unclear. For example, single women who reported never eating to relieve stress and who reported eating frequently to relieve stress were less likely to report an STD in their lifetime.

Respondents who had no opinion about their post's STD education program were less likely to report having had an STD in their lifetimes. This finding may indicate that respondents who did not have an STD were less likely to be referred to or voluntarily receive STD education. It may also indicate that respondents who received STD education may have been more likely to seek or be referred for STD testing and, therefore, were more likely to have a diagnosed STD.

Pregnancy on Active Duty

Besides STD infection, lifetime number of sex partners and overall health rating also discriminated among enlisted women on whether they had ever been pregnant on active duty. Both married and single women with more sex partners in their lifetimes were more likely to have been pregnant on active duty. Women with one partner also appeared to be likely to have been pregnant on active duty, but they were primarily married women with children whose spouse was their only lifetime sex partner. Married women were significantly more likely to have been pregnant on active duty than single women. For single enlisted women, the proportion who had been pregnant on active duty increased steadily with number of lifetime sex partners.

Women who had rated their overall health lower were more likely to report having been pregnant on active duty. However, women with lower health ratings were also likely to be uncertain if they were pregnant on active duty. Enlisted women reporting pregnancy on active duty were least likely to report "excellent" health. The cause-effect direction of this finding is unclear. Women who have been pregnant on active duty may perceive their overall health to be poorer, or women who perceive their health to be poorer may have other characteristics that could increase their risk of becoming pregnant on active duty.

Greater number of months on active duty also discriminated among women concerning pregnancy on active duty. While women who were uncertain whether they had been pregnant or who did not provide sufficient data to determine pregnancy status had the greatest mean number of months on active duty, women who had been pregnant on active duty still had significantly

more months on active duty than women who had not been pregnant on active duty. These findings suggest that women who make the military a career are unlikely to forego childbearing indefinitely.

Change in alcohol consumption since enlistment was related to pregnancy on active duty. A large proportion (although not the majority) of women who reported that they had been pregnant on active duty also reported that, although they drank before enlisting, they no longer drank alcoholic beverages. Women in the total sample who had not been pregnant on active duty most often reported drinking the same amount as before enlisting. The finding that, in general, enlisted women who have been pregnant on active duty tend to reduce their alcohol consumption after enlistment is explained in part by women ceasing to drink in order to protect the fetus' health. In addition, parents may not have time for the same level of social drinking as those without children. Parents may also decrease their drinking in order to model better behavior or better perform the myriad responsibilities that come with parenthood.

Pap test screening within the past year was predictive of the total sample of enlisted women having been pregnant on active duty. Rates of Pap test screening within the past year were highest for women who reported having been pregnant during the time period when they were on active duty. This finding would be expected for women who have a recent pregnancy, since a pelvic exam is part of pre- and post-natal care. Women who were pregnant on active duty might also be more likely to receive Pap tests at the intervals recommended by military clinicians because extended contact with military OB/GYN clinicians would increase their chances of receiving education and advice regarding their gynecological health care needs.

Pap Test Screening

Satisfaction with OB/GYN care at the post was the most significant factor discriminating among enlisted women concerning Pap test screening. Findings suggest that greater satisfaction with OB/GYN care led to women in this sample to receive a Pap test in the past year and that women who had received a Pap test in the past year were more likely to report satisfaction with OB/GYN care. Compared to women who were dissatisfied with OB/GYN care at the post, women who were satisfied with OB/GYN care at their post were more likely to have received a Pap test in the past year. However, women who had no opinion regarding OB/GYN care at their post had the lowest rate of Pap test screening in the past year, suggesting that these women might not have yet received any OB/GYN care at the post.

More months at current post was generally related to more recent Pap test screening among all enlisted women in the Army and Navy. However, this effect was not consistent as time at current post increased. In general, new arrivals at the post (two months or less) were much less likely to have had a Pap test in the past year. These women appeared to get their screening in about the second or third month at the post. After that time, patterns were less consistent, although women with the most time at the post (3 or more years) were more likely to have had a Pap test at least within the past two years. These patterns suggest that some system is in effect to ensure that new arrivals at a post get a Pap test shortly after their arrival. After that, the less consistent pattern of Pap test screening suggests that women may be more responsible for obtaining their own Pap tests. Greater familiarity with the post and its medical system may help facilitate adherence to at least minimal Pap test screening guidelines.

Stress resulting from being a woman in the military was also related to Pap test screening. Women reporting a great deal of stress from being a woman in the military were least likely to report a Pap test in the past year and most likely to report not having had a Pap test in over two years. Conversely, women reporting no stress as a woman in the military were most likely to have received a Pap test in the past year. Apparently, the experience of stress as a result of being an enlisted woman leads to less frequent Pap test screening. More information is needed on the causes of this type of stress in order to determine why it might affect Pap test screening adherence.

Being in the Navy discriminated among enlisted women concerning how recently they received Pap test screening within the past year among all enlisted women in the Army and Navy. Apparently, enlisted Navy women were more likely than Army women to receive a Pap test in the past year at the time of the survey. Further investigation may be needed to determine what practices within the Navy may have led a significantly greater proportion of enlisted Navy women adhering to the Pap test screening guidelines.

Health Education

Few questions on the survey examined the perceptions of military health education program. The three that focused on the helpfulness of alcohol education in the military and drug and STD education at the installation revealed that many enlisted women do not find these programs to be helpful. Compared with enlisted males and female officers, enlisted women were less likely to agree that the health education available to them was helpful in most cases. In no instance were enlisted women more favorable toward health education they received. The perceptions of STD education were similar among both Army and Navy enlisted women and among male and female enlisted in the Army.

STD education was examined more closely because of its relevance to reproductive health. A discriminant analysis revealed that two health behavior factors and two military-related factors were related to perceived helpfulness of STD education at the woman's installation. Enlisted women who used condoms all or most of the time were more likely to find STD education helpful. Either the education these women received made the desired impact or these women already believed in and agreed with safer sex recommendations. Those who did not find the education helpful were more likely to report never using condoms in the past year, suggesting that the health education they received was not effective. Findings that women with more lifetime sex partners (10 or more) were encouraging. These findings may suggest that women who have multiple partners may perceive STD education to be more relevant or that the education was effectively tailored to their needs.

Stress associated with one's military duties and feeling one should have been promoted in the past year were also factors related to perceived helpfulness of STD education. Those with higher stress levels were more likely to agree that STD education was helpful. These findings may suggest that participation in STD education programs may provide a support to those struggling with military service. Although concerns about promotions were a factor in the discriminant function, post hoc tests found it was not significantly related to STD education perceptions.

Recommendations

Below are some recommendations that stem from the findings of the secondary analysis. These recommendations may be used to guide the development of an intervention designed to increase preventive and self-care behaviors among enlisted women in the Army and Navy.

- Enlisted women were younger, had less education, and were at greater risk of reproductive health problems compared to female officers in the Army and Navy. Therefore, health education efforts must be tailored to the unique needs of enlisted women.
- Higher levels of formal education and exposure to military health education programs both were positively related to several indicators of good health and low risk behavior. This finding confirms the overall value of any type of education in increasing preventive care behaviors among enlisted women.
- While Pap test screening adherence in both services is high, Navy women appear to be slightly more adherent to screening recommendations. Findings from the 1998 *Department of Defense Survey of Health Related Behaviors Among Military Personnel* may reveal different trends and should be examined. However, if this trend persists, it may be worth investigating what factors lead to increased adherence to Pap test screening recommendations in the Navy in order to develop an intervention that may help increase adherence among enlisted Army women.
- Analyses revealed that Pap test screening was most likely to occur during or after pregnancy and about three months after an enlisted woman arrives at a new post. These findings suggest that Pap test screening for new arrivals at a post and OB/GYN visits for pregnant soldiers may be key intervention points for educating enlisted women.
- Satisfaction with OB/GYN care at an installation was significantly related to recent Pap test screening. This finding was due to women who had no opinion regarding OB/GYN care because they have never received it. However, this finding suggests the need to further study the sample of women who have "no opinion" regarding OB/GYN care in order to determine their unique characteristics so that can be targeted in an educational intervention.
- Greater stress experienced as a result of being a woman in the military was predictive of less recent Pap test screening. This finding suggests that an investigation of the reasons enlisted women perceive being female in the military as stressful may help to inform any educational intervention directed at increasing use of military gynecological care services.
- One unexpected finding was that frequent use of eating to relieve stress predicted lifetime STD infection. The reasons for this finding warrant further investigation.
- As would be expected, more lifetime sex partners was related to both STD infection and pregnancy on active duty. Enlisted women clearly need education that emphasizes the

importance of limiting the number of sex partners to limit one's risk of STD infection and pregnancy. Women who have a history of multiple partners should be identified through sexual history taking and encouraged to obtain both pregnancy and STD testing. These women also need to receive additional education on the prevention of STD infection and unintended pregnancy.

- Overall health status was also related to STD infection and pregnancy on active duty. The physical demands of military service may predispose women to these health concerns. The importance of several military-related factors may further support the effect of military service on women's health and well-being. However, poor health may be the result of having an STD infection or being pregnant. Further investigation is needed to determine if poor health is a precursor or a determinant of these health issues.
- The fact that enlisted women perceive that they get little help from existing health education programs points to the need for better interventions. However, some programs were perceived as helpful. That perceived helpfulness of the post's STD education program was related to lifetime number of sex partners suggests that women who receive this education find it useful. Existing STD education programs could be examined to inform the development of a new intervention to prevent STD infection among enlisted women. Analyses also suggested that women who have not been diagnosed with an STD are much less likely to receive any type of STD education in the military. Prevention, diagnosis, and treatment of STDs among enlisted women may be greatly increased by developing an intervention that can educate all enlisted women about consequences, risks, prevention, diagnosis, and treatment of STD infections.


APPENDIX F

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women

Presentation “Determinants of Reproductive Health and Health Behaviors Among Women in the U.S. Armed Forces”

Brown-Huamani, K.D., N. Atkinson, R.S. Gold, and E. Lewis.

Presented at the
American Public Health Association's 126th Annual Meeting
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Determinants of Reproductive Health and Health Behaviors Among Women in the U.S. Armed Forces

Kathryn Brown-Huamani

Nancy L. Atkinson

Robert S. Gold

Evelyn L. Lewis



Topics of Discussion

- Background
- Purpose of the Study
- Methodology
- Findings
- Conclusions

Background

- The percentage of active duty women is expected to grow in the U.S. Armed Forces as high as 20 percent in the near future.
- With the repeal of the combat exclusion law in 1994, women serve in all units of the military except combat branches (armor, infantry, and special forces).
- While active duty women are generally healthier than women in the general population, they face unique health concerns because of the duties they perform.
- Gynecologic complaints explain most of the extra sick calls and medical leave among active duty females, in general and when deployed.
- A large proportion of active duty women are young adults and single, placing them at greater risk of practicing behaviors that expose them to reproductive health threats.

Purpose of the Study

In order to inform the development of a health education intervention for women in the U.S. armed forces, this study seeks to:

- assess the most pressing gynecological self-care education needs of military women.
- assess current health education for military women.

Methodology

■ Primary Data Collection

- Sample
- Instrumentation
- Data Collection

■ Secondary Data Collection

- Sample
- Data Analysis

Primary Data Collection: Sample

- Data collected in the 1995 DoD Survey of Health Related Behaviors among Military Personnel was used for this study.
- The DoD used a two-stage cluster sampling design for the 1995 survey
- The first stage sampling frame was comprised of units located in geographical proximity within each Service.
- The second stage sampling frame was comprised of eligible active duty military personnel (N=27,141) stratified by pay grade and gender.
- The population was all active duty military personnel except recruits, Service academy students, persons absent without leave (AWOL), and persons with a permanent change of station at time of data collection

Primary Data Collection: Instrument

The survey was designed to assess the accomplishment of *Healthy People 2000* objectives, and to continue assessing substance abuse and health behaviors among military personnel. The survey included a broad range of over 131 items on:

- ♦ attitudes and behaviors regarding alcohol, tobacco, and drug use and abuse
- ♦ health behaviors related to exercise, eating and sleeping
- ♦ illness history and medical care received
- ♦ road safety practices
- ♦ stress experienced in work and family life
- ♦ physical and mental health status
- ♦ health risks, such as high blood pressure
- ♦ access to and satisfaction with health care
- ♦ knowledge regarding HIV transmission
- ♦ sexual practices and sexually transmitted disease (STD) history
- ♦ sociodemographics and military experience
- ♦ women's health issues including OB-GYN care, pregnancy, and prenatal behaviors

Primary Data Collection

Survey was administered to volunteers who were told the purpose of the study and guaranteed anonymity. Of the persons selected for the survey:

- 23,250 eligible individuals were identified
- 16,502 eligibles were available during data collection
- 14,225 surveys obtained in Phase 1 with usable information
- 8,748 eligibles identified in Phase 2
- 1,968 Phase 2 surveys obtained with usable information
- 16,193 surveys collected (N for total sample).

Secondary Data Analysis

Most analyses were conducted on the subsample of respondents to the 1995 DoD survey who reported gender as female (N=2,957).

- ◆ Bivariate analyses (chi-square, Kruskal-Wallis H, Mann-Whitney U) were used to look for **significant differences between enlisted women and female officers as well as between Services.**
- ◆ Bivariate analysis was used to examine **differences between male and female responses to questions about the military's alcohol, drug, and STD education programs** using total sample.
- ◆ Discriminant analyses were used to examine **factors most related to STD history, Pap test screening behavior, and pregnancy while on active duty.**

Variables in bivariate analyses of female respondents

Demographic

Service
Level (enlisted/officer)
Level of education
Marital status
Race
Age
Months of active duty

Health education

- ▼ Alcohol education helped
- ▼ Drug education helped
- ▼ STD education has helped

Health history

- ◆ Ever had an STD?
- ◆ When was last Pap received?
- ◆ Pregnant while on active duty?

Variables not entered in any discriminant analysis

- | | |
|---|--|
| Service | * Amt. of beer drank on typical drinking day |
| Pay grade (E1-O10) | * Amt. of wine drank on typical drinking day |
| Officer or enlisted? | * # days drank wine |
| Education level | * Amt. of liquor drank on typical drinking day |
| Race | * # days drank liquor |
| Spouse w. you | * How often drank 8+ glasses of wine/day? |
| ♦ Military job | * How often drank 8+ liquor drinks/day? |
| ♦ Currently deployed? | * Last time smoked a cigarette |
| ♦ Last time deployed 24+ hours | |
| ▼ Had illness that kept me from duty for 1+ weeks | |
| ▼ Had health problems | |
| ▼ Describe your health | |
| ▼ How may days health not good? | |

Variables not entered in any discriminant analysis (con.)

- | | |
|---|---|
| ♦ Amount of work related stress | ▲ Knowledge about most effective type of condom |
| ♦ Amount of stress as military woman | ▲ Score on AIDS knowledge quiz |
| ▲ Ease of getting medical care in military | |
| ▲ Ease of getting medical care at installation | |
| ▲ Ease of getting OB-GYN care at installation | |
| ▲ Satisfaction with health care at installation | |
| ♦ Last time had sex | |
| ♦ How often use condom | |
| ♦ Frequency of sex | |
| ♦ Helpfulness of STD education | |

Sample Characteristics (N=2,957)

Category	Group	N	%
Age	17-20	391	13.2
	21-25	855	28.9
	26-30	499	16.9
	31-35	513	17.3
	36-40	458	15.5
	41+	241	8.2
Race/ethnicity	American Indian	40	1.4
	Black	719	24.3
	Asian/Pacific Is.	95	3.2
	White	1879	63.5
	Hispanic	149	5.0
	Other	75	2.5
Education	<12 years	4	0.1
	High School Graduate	788	26.6
	Some Postsecondary Educ.	1414	47.8
	College Graduate	335	11.3
	Grad/professional Study	416	14.1
Marital Status	Married	1567	53.0
	Single	1379	46.6
	Missing	11	0.4

Sample Characteristics (N=2,957)

Category	Group	N	%
Branch	Army	686	23.2
	Navy	864	29.2
	Marine Corps	576	19.5
	Air Force	831	28.1
Level	Enlisted	2341	79.2
	Officer	616	20.8
Time on Active Duty (not significant by service)	≤12 mos.	308	10.4
	13 – 24 mos.	379	12.8
	25 – 48 mos.	522	17.7
	49 – 72 mos.	271	9.2
	73 – 96 mos.	217	7.3
	97 – 120 mos.	181	6.1
	10 years +	994	33.6
	Missing	85	2.9

Sample Characteristics (N=2,957)

Health History	Categories	Army N (%)	Navy N (%)	Air Force N (%)	Marines N (%)
Prior STD	Yes	189 (28.1)	207 (24.5)	188 (23.0)	144 (25.3)
	No	484 (71.9)	637 (75.5)	628 (77.0)	426 (74.7)
Pap Test History**	Not in past 2 yrs	68 (10.2)	58 (6.8)	47 (5.7)	59 (10.4)
	>1 & <2 yrs ago	129 (19.4)	123 (14.5)	113 (13.7)	83 (14.7)
	In past year	469 (70.4)	669 (78.7)	664 (80.6)	424 (74.9)
Pregnant on active duty **	Yes	189 (27.6)	241 (27.9)	253 (30.4)	205 (35.6)
	No	280 (40.8)	401 (46.4)	376 (45.2)	228 (39.6)
	Uncertain	217 (31.6)	222 (25.7)	202 (24.3)	143 (24.8)

* = $p < .05$, ** = $p < .01$ (based on chi-square analyses)

Sample Characteristics (N=2,957)

Health History	Categories	Enlisted N (%)	Officer N (%)
Prior STD**	Yes	623 (27.1)	105 (17.4)
	No	1677 (72.9)	498 (82.6)
Pap Test History	Not in past 2 yrs	171 (7.5)	58 (6.8)
	>1 & <2 yrs ago	352 (15.3)	123 (14.5)
	In past year	1772 (77.2)	669 (78.7)
Pregnant on active duty **	Yes	764 (32.6)	124 (20.1)
	No	953 (40.7)	332 (53.9)
	Uncertain	624 (26.7)	160 (26.0)

* = $p < .05$, ** = $p < .01$ (based on chi-square analyses)

Factors most related to lifetime STD history

Number of lifetime sex partners

Amount of stress caused by health problems

How often in past year respondent drank 8+ beers

Ability to Discriminate by STD History

Predicted Group Membership		
<i>Ever had an STD?</i>	Yes	No
Yes N (%)	67 (9.3%)	650 (90.7%)
No N (%)	51 (2.4%)	2064 (97.6%)
Ungrouped N (%)	2 (25%)	6 (75%)

75.2 % Correctly Classified (F = 107.11, p = .000)

Ability to Discriminate by Pap Screening History

<i>Time since respondent's last Pap screening</i>	Predicted Group Membership		
	Not in past 2 years (incl. "don't recall)	More than 1 year ago but in past 2 years	Within past year
Not in past 2 years (incl. "don't recall) N (%)	30 (39%)	6 (7.8%)	41 (53.2%)
More than 1 year ago but in past 2 years N (%)	13 (7.2)	16 (8.8%)	152 (84%)
Within past year N (%)	16 (2%)	16 (2%)	762 (96%)

76.8 % Correctly Classified (F = 14.46, p = .000)

Factors most related to Pap Screening History

- | | |
|---|---|
| Satisfaction with OB-GYN care at installation | Drinking more, same or less in military |
| Ease of getting OB-GYN care in military | Do you have any children living with you? |
| Number of mos. at present post | Number of years smoked daily |
| Number of days deployed in past month | Satisfaction with work assignment |
| Age began smoking regularly | Use of condom at last intercourse |

Factors Most Related to Pregnancy While on Active Duty

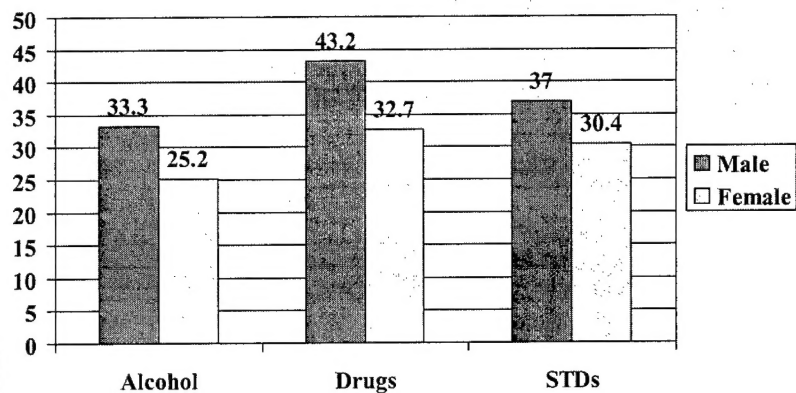
- Do you have children living with you?
- Age
- Number of months on active duty
- Satisfaction with OB-GYN care at installation
- Number of cigarettes smoked per day
- Number of days drank beer in past month
- Number of lifetime sex partners
- Number of sex partners in past year
- Amount of stress caused by health problems
- Marital status

Ability to Discriminate by Pregnancy on Active Duty

		Predicted Group Membership		
<i>Pregnant on active duty?</i>		Yes	No	Uncertain
Yes	N (%)	573 (67.5%)	163 (19.2%)	113 (13.3%)
No	N (%)	112 (9.6%)	1010 (86.3%)	49 (4.2%)
Uncertain	N (%)	173 (26.9%)	139 (21.6%)	332 (51.6%)

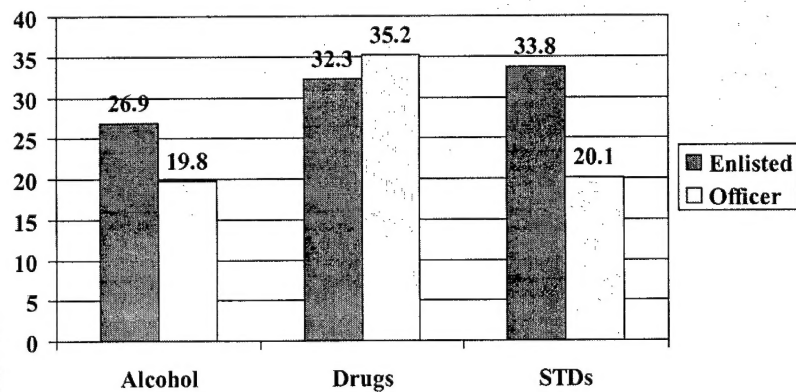
71.9 % Correctly Classified ($F = 138.57, p = .000$)

Percentages of males vs. females who agreed or strongly agreed that the military's education programs had been helpful in the following areas (N= 16,193):



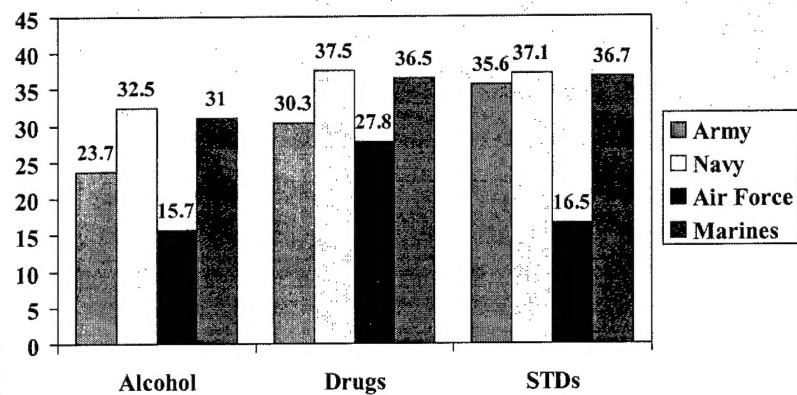
Mann-Whitney U test found significant differences in responses by gender at $p < .001$ for all categories.

Percentages of enlisted females vs. female officers who agreed or strongly agreed that the military's education programs had been helpful in the following areas (N= 2,957):



Mann-Whitney U test found significant differences in responses by employment level at $p =$ or $< .001$.

Percentages of females in each service who agreed or strongly agreed that the military's education programs had been helpful in the following areas (N= 2,957):



Kruskal-Wallis tests found significant differences in responses by service for all categories. Alcohol and STD education results were significant at $p < .001$. Results for drug education were significant at $p < .05$.

Conclusions

- Ability to discriminate adopters, not non-adopters
- Variability in how attributes affect adoption intentions